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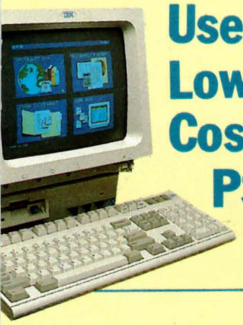

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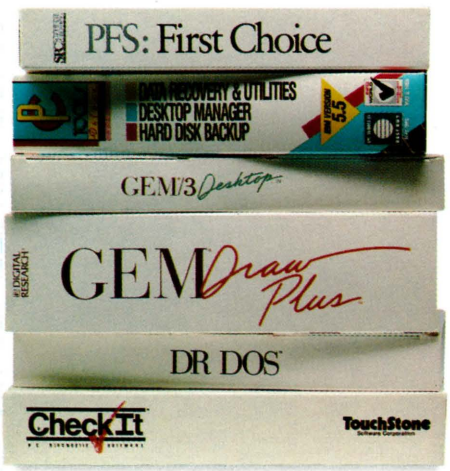

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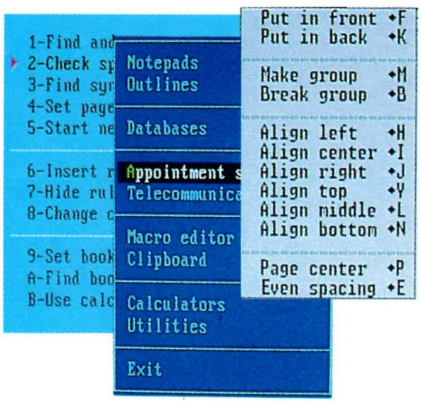

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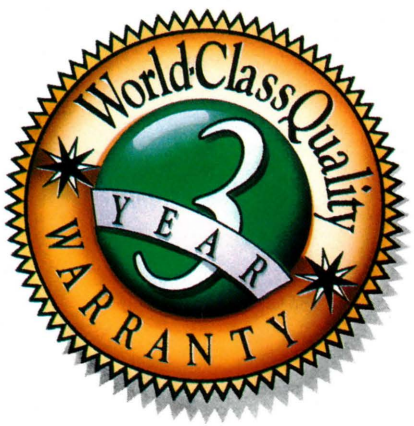

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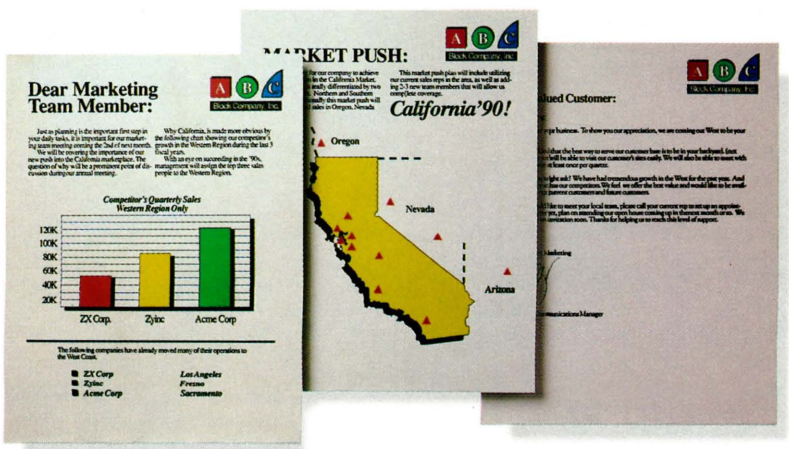

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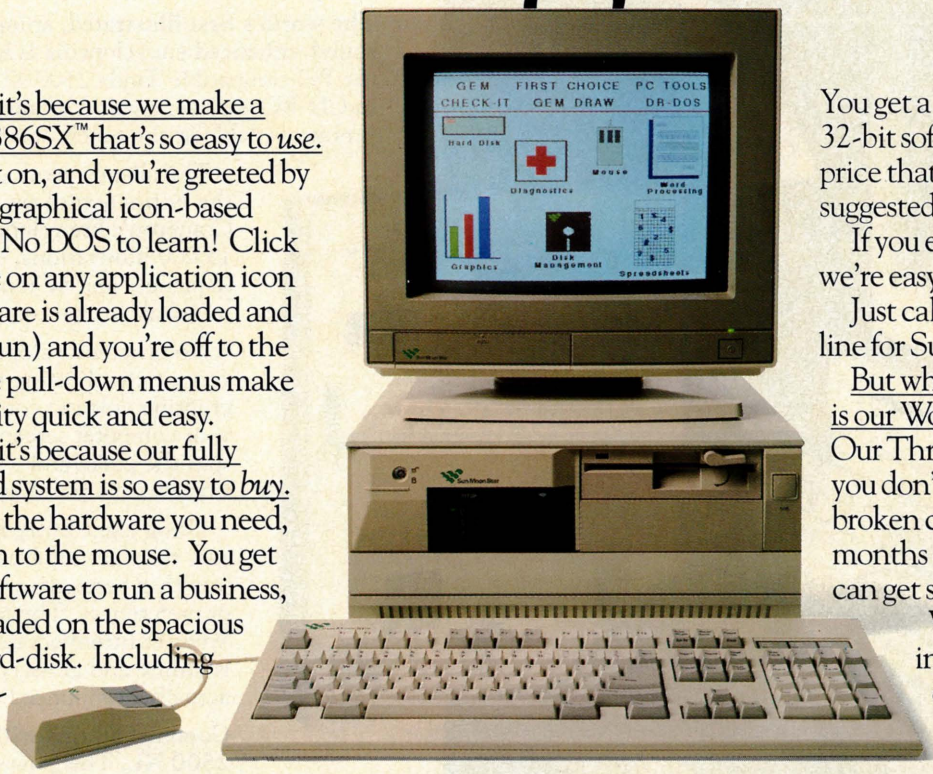

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COVER STORY
Great Franchise Opportunities: 30 Businesses You Can Run from Home **Page 41**
If you're looking to start a home-based operation with the added support of a parent company, a proven track record, and tried-and-true marketing and sales plans, then opening a franchise could be your ticket to business success. You'll learn how to evaluate the many franchise opportunities out there to find the right fit for you.

Ready-to-Run Businesses for Sale **Page 45**
A directory of franchise opportunities in growing fields—business services, publishing, domestic support, and others—specially tailored to appeal to the would-be home-based entrepreneur.

SOFTWARE
Three Easy Backup Strategies That Can't Fail **Page 48**
Data really is the most valuable—and vulnerable—component of your computer system. Lose your work, and you lose time, money, and, possibly, business. Here are some simple data-backup solutions other home-based professionals are using to play it safe and smart. *Plus:* A roundup of backup-automating software.

PROFILE
On My Own, Part VII: Staying Connected to the Business World **Page 51**
For home-based professionals, keeping in touch with clients and customers is crucial to success. In this installment of HOME-OFFICE COMPUTING's special series following the switch from a corporate to a home-office lifestyle, you'll see how one professional's communications complement helps him stay in business wherever he goes.

SHOPPING GUIDE
Choosing the Best Computer **Page 53**
When it comes to equipment-purchasing snafus, experience is a good, but harsh, teacher . . . so why not learn from the experience of others? HOME-OFFICE COMPUTING offers a battle-proven checklist of dos and don'ts that can help make the next time you go computer shopping the last time.

PRODUCTS

Product Previews **Page 18**
First looks at new hardware, software, and office products by HOME-OFFICE COMPUTING's editors. *This month*: The easy-to-use, low-cost IBM PS/1 and Microsoft's *Windows* 3.0—a full-fledged graphical user interface that may well change the face of DOS computing.

Office Essentials **Page 58**
The latest in office products, gadgets, and services. *This month:* A copier-cleaning kit, a jargon-free *1-2-3* primer, a knapsack for your Mac, and more.

Hardware Reviews **Page 60**
Miniguide to Cordless Phones with Answering Machines: Reviews and a side-by-side comparison of the Cobra AN 8521, the Code-A-Phone 7210, and the PhoneMate 1850. *Computer:* Dell System 320LX. *Fax Machine:* Okifax 500. *Laser Printer:* Packard-Bell PB9500. *Ink-Jet Printer:* Canon BJ-130e Bubble Jet.

Software Reviews **Page 66**
Reviews of *Quattro Pro*, a full-featured spreadsheet; *Nutshell Plus*, an innovative database; the latest version of *MultiMate*; and *Studio/1*, a paint-and-animation program for the Mac.

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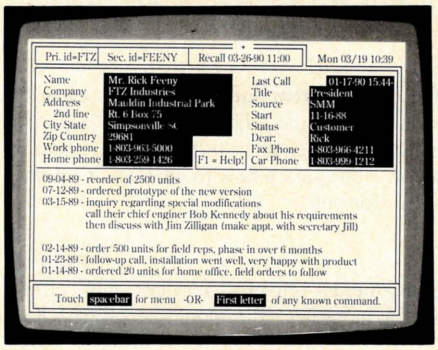

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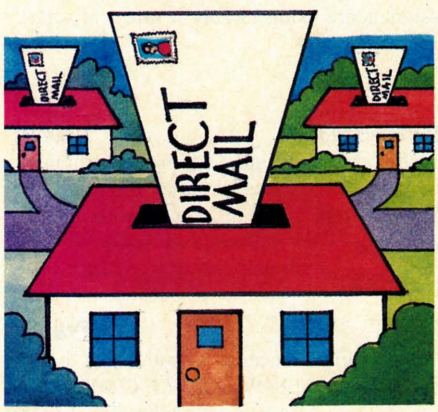

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Readers Swap Technical Talk. HOME-OFFICE COMPUTING's editors answer readers' questions on selling used computers and the dangers of disk tampering. *Plus:* Helpful hints on formatting disks of different densities; a book on computer troubleshooting is reviewed.

Working Smarter **Page 38**

Make the Most of Your Photo Opportunities. According to columnists Paul and Sarah Edwards, a flattering portrait can help beef up your promotional mailings, open doors to public speaking and lecturing, and bolster your professional image.

Workstyles **Page 80**

How to Vacation at Home. Engineering the perfect vacation at home isn't so easy when you happen to work at home, too. Our telecommuting senior editor Nick Sullivan shares his tips on creating distance from the work-at-home world.

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News, advice, tips, and a shot of humor on using home-office technology and running a home business. *This month:* Fighting back against merchant-status denial, opportunities in exporting for the 1990s, free postal advice, a directory of home-based businesses, data doctors to the rescue, and more. *Plus:* Washington Beat—small-business breaks from Uncle Sam.

Desktop Publishing **Page 24**

"If I Knew Then What I Know Now . . ." (Part 2). Learning from your own mistakes is good, but learning from the mistakes of others is even better. Here, desktop-publisher Steve Morgenstern lets you in on more things he would have done right the first time.

Software Solutions **Page 28**

Phone Sales Can Feed a Growing Business. The telemarketing program *Telemagic* combines automated calling functions and flexible logging and note taking to help you maximize your telephone sales efforts.

Finance **Page 30**

Can Software Help You Get Rich? Comprehensive and full-featured, *Money* magazine's *WealthBuilder* package offers a goal-oriented approach to financial management for the fledgling investor.

Telecomputing **Page 34**

Save Time and Energy by Dialing Telephone Numbers with Your Modem. There are many advantages to automating your phone-dialing chores with a modem and a headset—less downtime, automatic redialing, hands-free operation, and more. Here are some tips for avoiding phone-finger cramp and sore ears.

Business 101 **Page 36**

What You Should Know About Direct Mail. In this final installment of HOME-OFFICE COMPUTING's special series on advertising, you'll find out about the many advantages of direct mail for home-based businesses and learn how to formulate your own direct-mail campaign.

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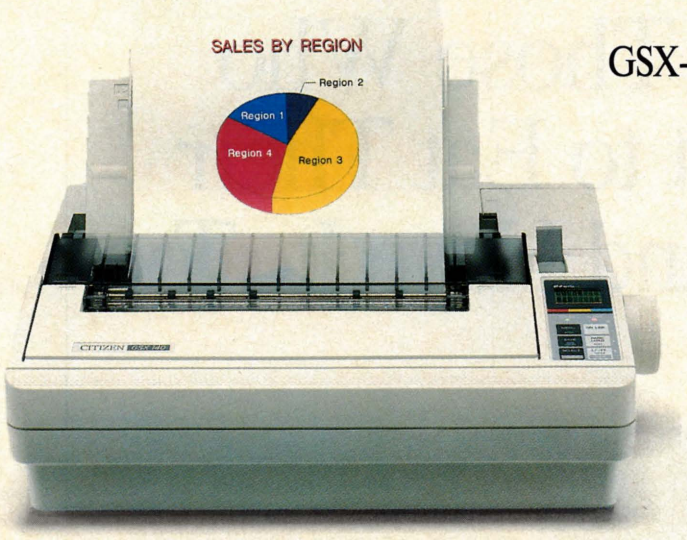
Award Winning Performance.



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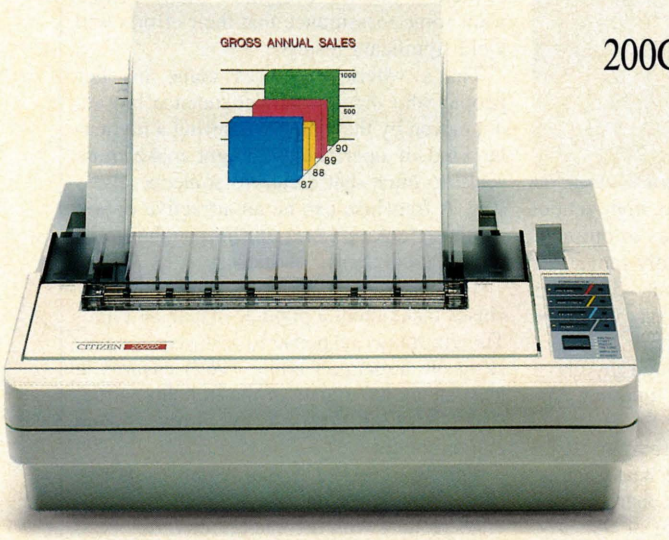

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For an authorized Citizen dealer near you, just call **1-800-556-1234, extension 34**, or in California call **1-800-441-2345, extension 34.**

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CIRCLE READER SERVICE 31

Home Office COMPUTING

For Those Who Want to Eat Their Cake and Have It, Too

Aaron Gornbein, my favorite high school teacher, used to deliver lectures to our economics class. One topic I vividly remember from his lectures—more than 30 years ago—was how the U.S. economy would be service-based in the near future.

At the time, however, although my classmates and I walked around quoting Mr. Gornbein, his message about the economy didn't make much of an impression. After all, we were in Detroit, where heavy industry seemed omnipresent. Back then, no one worried much about the future of our city. Obviously his were not the prevailing views of the day; Detroit might be in a different position economically if they had been.

Not long after I moved to New York City, I worked on a series of children's books on economics. Again there was talk about the service economy. But it was just that—talk. It still seemed abstract, although New York has long been been home to such traditional service industries as finance, insurance, and even entertainment.

Today, American business bears little resemblance to what I knew as a child. There's no question about it: The service economy is here. Not only do more people work in offices than in factories or on farms, but a growing number of those offices are found in homes. And the tools of business found in those homes look exactly like those used in office towers.

Fed up with the anonymity and feelings of powerlessness engendered by large organizations, a growing number of workers are taking their business knowledge and technological skills home. They are braving the entrepreneurial risks of striking out on their own. But the thought of starting from scratch is not for everyone. Many people want some reassurance that their efforts will yield significant results.

That's where franchises come in. For people who dream of independence but are not driven by the vision of starting a particular kind of operation, it might make more sense to hitch that dream to someone else's star. A franchise can be an attractive option for those looking to set up shop on their own with a good chance of success.

The appeal and fast growth rate of franchises make them a popular magazine topic. The enormous response to last year's cover story on franchises (*June 1989*) ensures at least an annual update of the franchise situation for computer-savvy, home-based entrepreneurs.

This year, as last, Lynie Arden, author of *Franchises You Can Run from Home*, provides readers with the background they need if they're considering a franchise. (*See "Great Franchise Opportunities," page 41.*) In addition, her rundown of 30 home-based service franchise opportunities (*see page 45*) may point you to the business opportunity you've been looking for.

As for me, I'm just happy to know, after all these years, that Mr. Gornbein was right.

Claudia Cohl

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CIRCLE READER SERVICE 43

LETTERS

POSITIVE FEEDBACK

HOME-OFFICE COMPUTING is right-on! I have stacks and stacks of unread copies of *BYTE* and *Personal Computing*, but I have never found a publication that is so on target for my business and computing needs as yours. It is the only magazine I've read cover to cover this year.

Although I have been technically involved with computers since the 1960s, I find those other publications simply overwhelming. In HOME-OFFICE COMPUTING I get just what technical information I need—no more, no less—and an equal amount of good business advice to boot. I especially enjoy the personal style and friendliness of your authors.

I recently left a high-paying system-analyst position to devote my time to a sideline business I've been involved with for the past few years—which is, primarily, tabulating gymnastics scores for major meets. The May cover story (*"Surviving Hard Times," page 39*) certainly rang true for me. In addition to seasonal dry spells, my work requires obtaining government security clearances—a real time-consuming process—and extensive travel. Well, at least your magazine serves as a friendly and educational traveling companion.

JIM BERNIER
JEBSYS ASSOCIATES
Fairfax, Virginia

PANASONIC PANEL PROBLEMS

I noticed that the Panasonic KX-P1124 dot-matrix printer was faulted for having a nearly indecipherable control panel in your Buyer's Guide to 24-Pin Dot-Matrix Printers (*"24-Pin Dot Matrix: Great Printer Value!" page 51*).

We felt pretty much the same way when we got our own Panasonic.

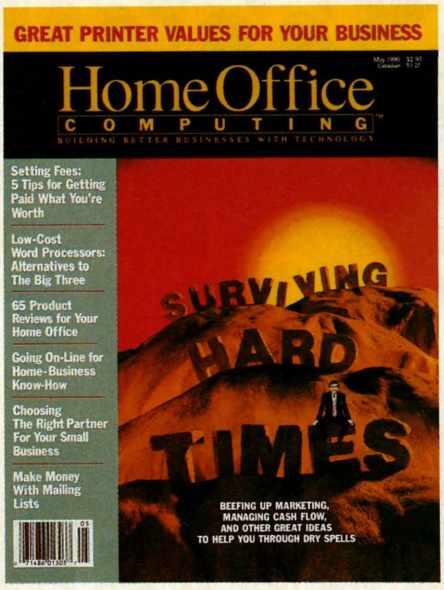
Well, since our business is a small software house, we did something about it. My wife and I wrote a program that allows users to manipulate all of the settings in the KX-P1124's (or in any other LG-2550 type printer's) control panel right from the keyboard. It really makes this otherwise outstanding product much easier to use.

I guess it just shows you that as long as they keep making products harder to operate, we need to rely on ourselves for innovative solutions.

GARY LAGIER
OMNIFIC SOFTWARE
Ripon, California

GET BACK (ISSUES)

I recently saw your magazine for the first time and purchased a copy. I have been looking for this type of publication for some time, so I'm sending in my subscription form as soon as I can.



Earlier this year, I started a word-processing service from my home. Have you published any articles that deal specifically with starting a word-processing business from the ground up? Are you planning to cover this topic in the near future? I know several people who would be interested.

BARBARA A. WILLIAMS
A TYPING SERVICE
Tallahassee, Florida

EDITOR'S NOTE: *The last time we did a piece devoted solely to starting a word-processing business from home was in the November 1987 issue (*"*How to Start a Word-Processing Business,*" *page 53). Readers interested in obtaining this issue, or any back issue, of* HOME-OFFICE COMPUTING, *should contact Shirley McDonald,* HOME-OFFICE COMPUTING, *730 Broadway, New York, NY 10003. Please specify the issues you want and enclose a check or money order for $4.25 per issue (or $3.50 per issue if you're ordering more than five).*

DAYS OF OUR WORK LIVES

Your Business 101 article in the May issue (*"Should You Charge More for Your Services?" page 32*) contains a formula attributed to consultant Howard Shenson that could be potentially confusing to readers who follow it to the letter.

The equation listed for calculating your daily rate assumes that all time spent "working" produces income. The formula spreads labor costs over a "typical 261 paid days a year." An employer may spread costs for a salaried worker over that many days, but for selling professional services, spreading your income over 261 days could spell disaster.

The Institute of Management Consultants conducted a survey of billable hours for large, medium, small, and solo operations. Those working on their own tended to bill under 100 hours per month. Divide that figure by eight-hour days per year and you get about 150 billing days—not 261. At the per diem quoted in the article, the consultant would be expecting to take in $195,040.08 based on those 261 "work" days, but would actually only make $134,510.09—a shortfall of more than $60,000.

JOHN J. REDDISH
PRESIDENT
ADVENT MANAGEMENT ASSOCIATES
West Chester, Pennsylvania

SPEAKING IN TONGUES

First off, let my say that I was fortunate enough to pick up my very first copy of HOME-OFFICE COMPUTING this spring. As a home-based translator, I found May's article by Charlotte Pierce helpful (*"Expand into Foreign Markets," page 45*).

I'd like to add some information of my own. There is an alternative method to display foreign-language characters on-screen and get your documents to conform to different countries' standards for displaying time, date, or currency. It can be achieved from within just about any word processor using a couple of DOS commands, KEYB and COUNTRY.

I won't get into the nitty-gritty of these commands—you can find a full explanation of them in your DOS manual—but they do work!

JAMES J. KLIORA
PROMEX SYSTEMS
Waukegan, Illinois

CORRECTIONS/UPDATES

On page 53 of the May issue (*"24-Pin Dot Matrix: Great Printer Value!"*), Okidata's phone number was listed incorrectly. The correct number is (609) 235-2600.

In that same issue, the Miniguide to Track Balls (*"Track Balls: Better Than Mice," page 58*) reported that Kensington Microware, Ltd. ([212] 475-5200), did not manufacture a Macintosh version of its Expert Mouse device. There now is a Mac version ($170) of the track ball, called Turbo Mouse, as well as a bus version ($190), available from that company.

HOME-OFFICE COMPUTING *looks forward to letters from all readers. Please direct correspondence to Letters to the Editor,* HOME-OFFICE COMPUTING, *730 Broadway, New York, NY 10003. Include name, address, and telephone number. We cannot respond to every letter we receive, and those letters included in* HOME-OFFICE COMPUTING *may be edited for length and clarity.* ■

Introducing Samsung's SD630 286 and SD700 386SX.

High Performance and Rock Solid Value.

The world of desktop computers is filled with high performance, high priced models. Computers that get the job done, but leave a serious dent in your bottom line.

From out of this forbidding landscape emerge the SD630 and SD700 from Samsung. Fast, powerful AT® and 386SX compatibles that won't put your budget on the rocks.

Loaded with features, the SD630 is ideal for small to medium-sized businesses. Its 12MHz operating speed and 80286 microprocessor handle everything from spreadsheets to desktop publishing. All for a suggested list price of under $1100!

For even greater productivity at an affordable price, there's Samsung's versatile SD700. Its 16MHz 80386SX microprocessor keeps pace with the most demanding programs. As a stand-alone system or network player, the SD700 brings extra muscle to every application.

Add to that the reliability of a 31-billion dollar industrial corporation — the world's 17th largest. Plus extensive support programs such as on-site service and a customer response hotline.

	SD630	*SD700*
Microprocessor	*80286*	*80386SX*
Operating Speed	*12MHz*	*16MHz*
On-Board RAM	*640KB; expandable to 1MB on mother-board*	*2MB; expandable to 8MB on mother-board*
Expansion Slots	*Five 16-bit; all available*	*Five 16-bit; all available*
MSRP	*$1099*	*$1999*

All of which make the SD630 and SD700 rock solid choices for your desk–top computing needs. For the name of your nearest Samsung reseller, call 1-800-624-8999 ext. 851.

The SD630 and SD700. More than affordable. SAMSUNG

CIRCLE READER SERVICE 47

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EDITED BY KAREN KANE

Refused Merchant Status? Don't Take No for an Answer

Why do so many bankers look down their nose when home-based business owners ask for merchant status?

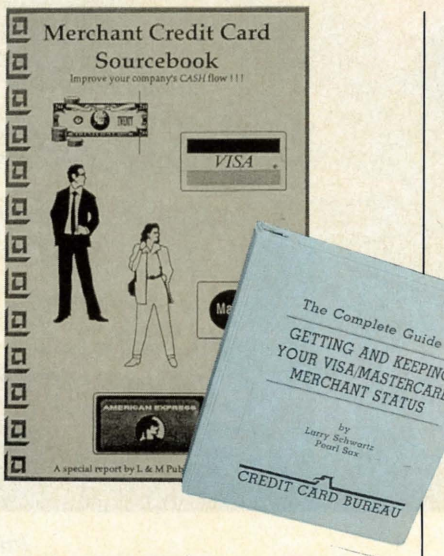
Just such a problem was highlighted in an article entitled "Audiotape Business Reels in Profits" *(see page 63 of the November 1989 issue)*. In their struggle to obtain merchant status, the owners of a home-based audiotape business turned to the Credit Card Bureau for help in finding a bank that would let their business accept Visa and MasterCard from customers. So great was the response to that story that the bureau's founders and directors, Larry Schwartz and Pearl Sax, decided to write *The Complete Guide to Getting and Keeping Your Visa/MasterCard Merchant Status*.

Most businesses could get merchant status if they only knew how, according to Schwartz. In the past three years, the Credit Card Bureau has guided hundreds of merchants to the small number of banks willing to handle their credit transactions. "Banks have been burned by a limited number of dishonest merchants, especially mail-order merchants and telemarketers," says Schwartz. "Instead of improving their techniques for screening merchants, they closed their doors to all the merchant categories they feared."

In the book, which sells for $140, Schwartz and Sax share the techniques they've used to win merchant status for businesses all over the United States. The book offers ways to refute the common arguments banks give: Your business has been previously terminated as a credit-card merchant, you do business from home, your venture is too new, or they accept only retail accounts, for example. Also included in the guide are samples of merchant-status applications, contact names at banks, fees involved, and details on how to assure a bank that it will not lose money on you.

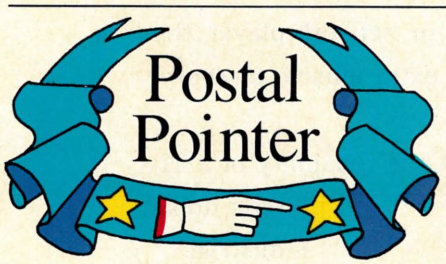
For a copy of *The Complete Guide to Getting and Keeping Your Visa/MasterCard Merchant Status*, write to the Credit Card Bureau, 217 N. Seacrest Blvd., Box 400, Boynton Beach, FL 33425; or call (407) 737-7500.

For a quick introduction to the credit-card processing system and a list of the major banks, independent service organizations, and credit-card companies, the *Merchant Credit Card Sourcebook* by Michael Swartz may also be helpful. The 16-page booklet sells for $7.50 and can be ordered from L&M Publishing Company, 260 Clearpark Circle, San Jose, CA 95136.



—CONAL LI LARKIN

ILLUSTRATION BY MONA MARK



As the U.S. Postal Service installs fancy new sorting machines and optical character readers in more and more post offices, it is also sending consultants out in the field to help customers learn how to take advantage of the upgraded equipment. More than 750 consultants, or account representatives, are available nationwide to help you get your mail through the system as rapidly and efficiently as possible. Your postal representative can tell you, for example, if the company logo on your direct-mail envelope will confuse the character reader when it scans your mail. If you make a simple change in your envelope's design (moving the logo above the address, for example), your mail may make it through the system faster.

To contact an account representative, call your local post office. Anyone is eligible for a free consultation with these experts.

—PETE SILVER

Opportunities in Exporting

Imagine one large marketplace with 320 million consumers and $4 trillion. And imagine your products and services selling in this marketplace. Is your mouth watering? It should be. That's exactly what Europe will bring in 1992, when trade barriers between 12 nations disappear. Nearly as important for many businesses is the 1989 Free Trade Agreement between Canada and the United States, which will eliminate all trade tariffs between the nations by 1998.

If you're interested in Europe, it's not too early to get your foot in the door. Establish your contacts and learn the basics now. Already, the 12 nations of the European Community account for $500 billion in U.S. sales. That compares with $130 billion in U.S. sales to Japan. Europe is a natural for U.S. exporters: English is commonly used in business dealings, distribution and financial systems are solid, and a network of U.S. government agencies will help get your service or product to market. Start by calling a local International Trade Administration (ITA) office and requesting the many helpful publications and services it offers. It's listed in the blue pages under the U.S. Department of Commerce.

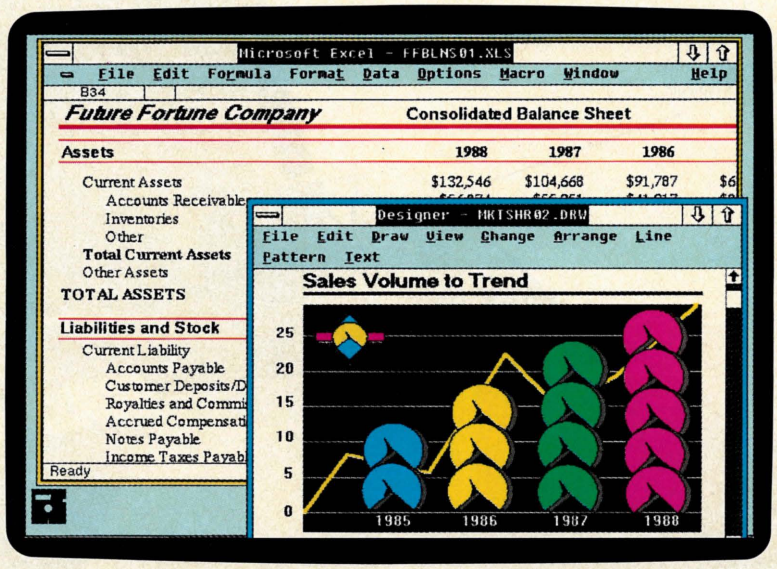
Looking north of our border, U.S. business owners may find exporting to Canada even easier—there are no language barriers; there is minimal paperwork; and excellent distribution and financial systems exist between the two countries. Well over 70 percent of Canada's imports come from the United States; that's more than $200 billion annually in U.S. goods and services.

If you start learning and studying European and Canadian markets now, you can benefit from the changing world market. Those who wait may miss out on one of the most exciting business opportunities of the nineties.

—PETE FRETWELL

Look familiar?

Then this $50 upgrade will look great.



If this looks like your current version of Windows, you can upgrade for just $50.

You may have received Microsoft Windows with your hardware. If you did, you can save $99 with this upgrade offer.

Check out your software because if it works within a Windows environment, you're in luck.

If you are using Microsoft® Windows,™ the best thing about this offer, besides the special upgrade price, is that you'll now have access to all the memory in your PC. Not to mention that you can keep using your existing MS-DOS® applications, multitask with other Windows applications, and network more easily.

All the popular Windows applications have already been updated to utilize Windows 3.0's powerful capabilities. And most are offering low-cost or free updates. So if you have any version of Windows—including runtime Windows—give us a call. We'll upgrade your copy of Windows, help you update your applications, and answer any questions you may have.

But make sure and call for your $50* Windows upgrade before September 15, 1990. You'll save $99 off the suggested retail price of $149. And you'll be using Windows 3.0. Which will make you look great.

To get your Windows upgrade for just $50, call (800) 323-3577, Dept. L61.

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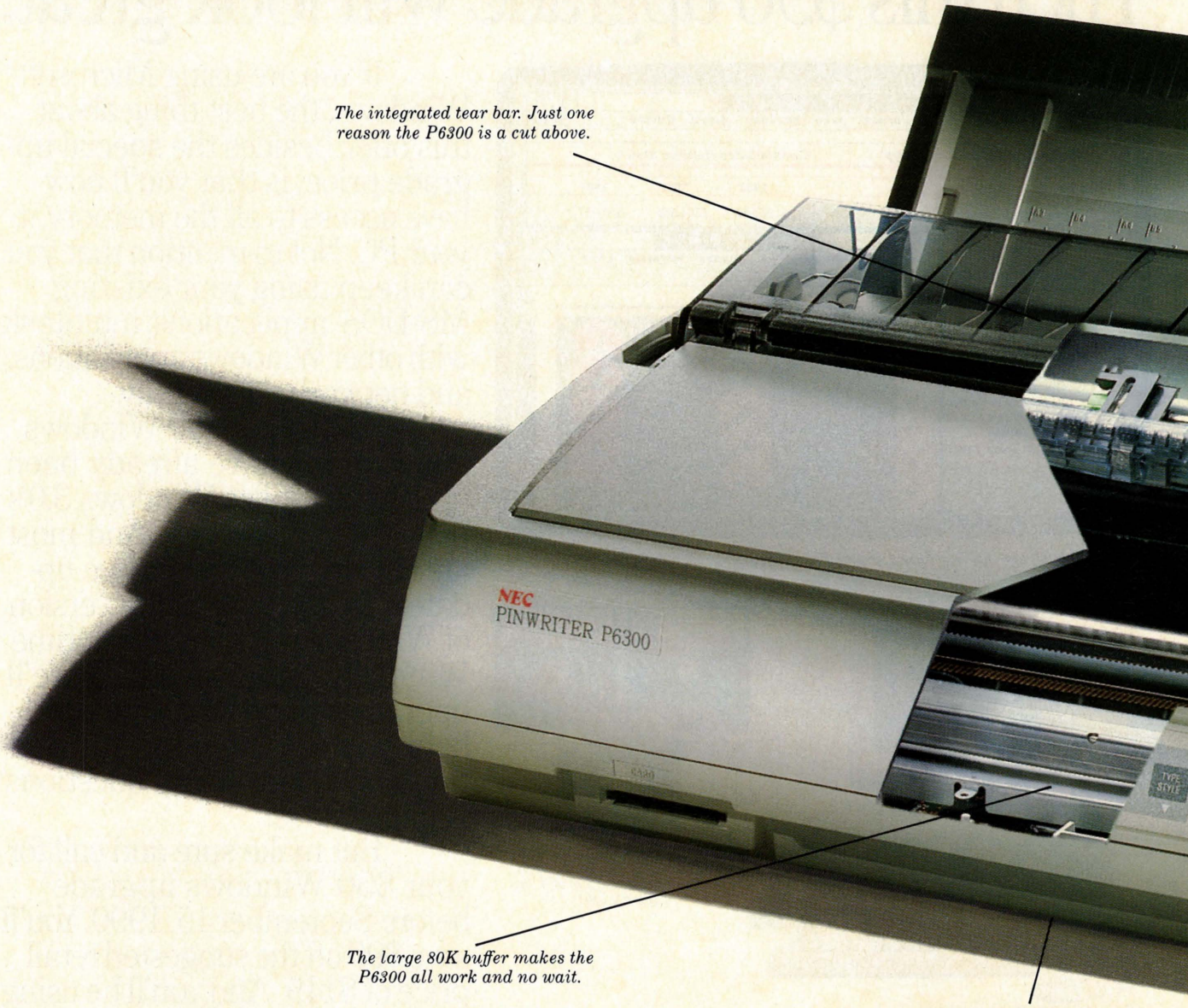
© 1990 Microsoft Corporation. All rights reserved. Microsoft, the Microsoft logo and MS-DOS are registered trademarks and Making it all make sense *and Windows are trademarks of Microsoft Corporation. *Offer good only in the 50 United States. Payment in U.S. funds (plus a $5.50 shipping/handling fee and applicable sales tax). Please allow two to four weeks for delivery.*

Only the new NEC to outperform any dot-



The integrated tear bar. Just one reason the P6300 is a cut above.

The large 80K buffer makes the P6300 all work and no wait.

The bottom feed slot permits trouble-free handling of multipart forms and labels.

Introducing the NEC Pinwriter P6300.

Only the Pinwriter® P6300 printer from NEC has the guts to deliver this much glory: Bold, black print quality that makes a statement with every line. Color graphics* that turn not only heads, but opinion. Eight standard fonts that let you do more, more impressively. And a Quick Gothic™ font that gives you letter-quality output up to two-thirds faster than anything in its class.

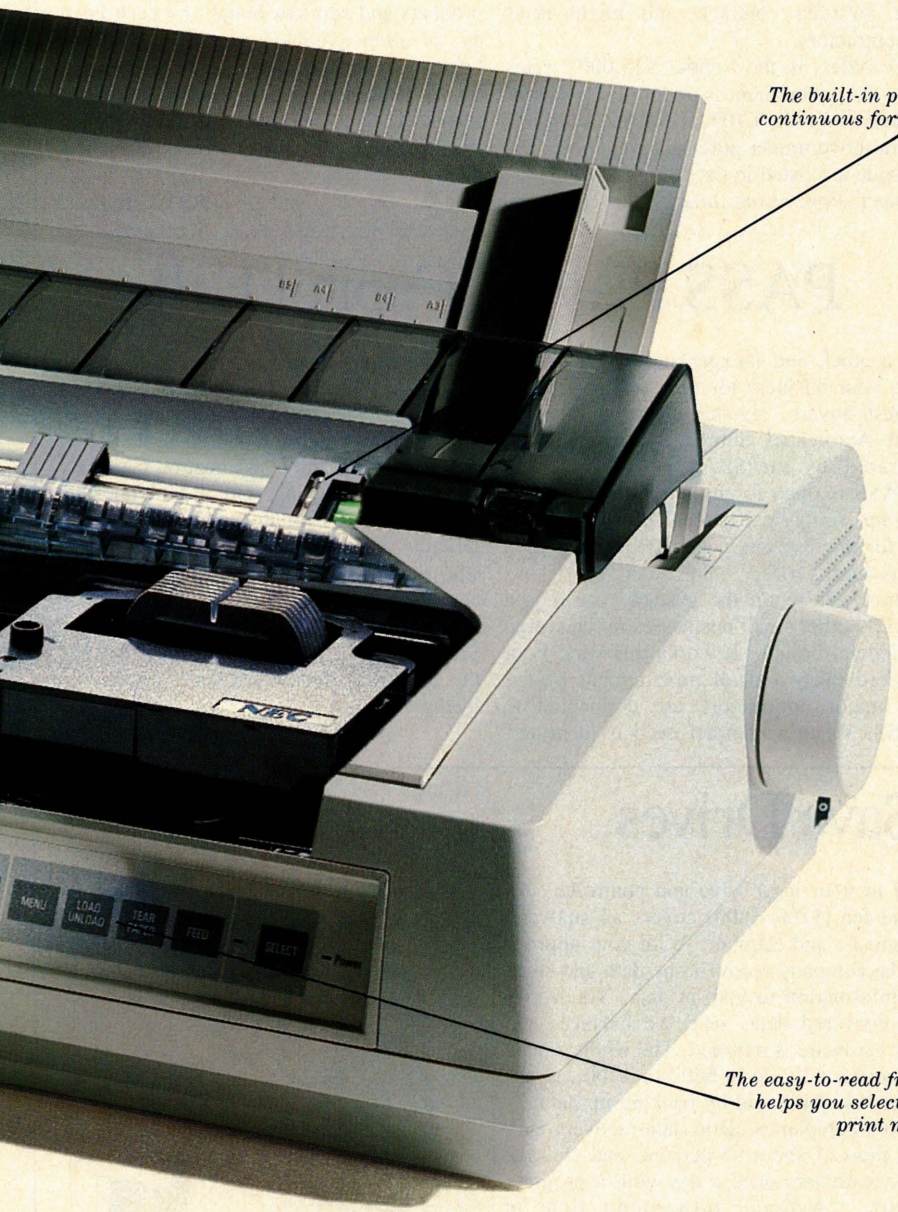
C&C Computers and Communications

*Color kit sold separately.

NEC Technologies, Inc. 1414 Massachusetts Ave., Boxborough, MA 01719. 1-800-NEC-INFO. In Canada, 1-800-343-4418.

CIRCLE READER SERVICE 41

P6300 has the guts matrix printer in its class.



The built-in push tractor feeds continuous forms from the back.

The easy-to-read front display panel helps you select typefaces and print modes.

But the beauty of the P6300 (and its narrow-carriage brother, the P6200) extends beyond the printed page. Because they give you the ability to print on everything from 24-pound letterhead and envelopes, to continuous forms, labels, and card stock. Plus the ease to go from one to another, from one minute to the next.

It takes guts to say the Pinwriter P6300 is the best dot-matrix printer you can buy today.

It takes a lot less than you think to bask in its glory.

NEC

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A Pot of Government Gold Is Waiting for You

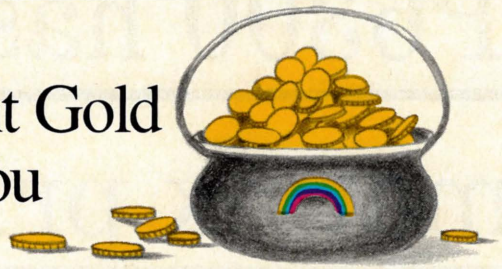


ILLUSTRATION BY MONA MARK

If the government seems like a large, hairy, unapproachable beast, remember that it can be as gentle as a kitten when dealing with small businesses. Thanks to Public Law 85-536, the government is obligated to "aid, counsel and protect . . . the interests of small-business concerns." Last year, businesses classified as small by the federal government got 19.5 percent of all federal contracts, reeling in a whopping $35.7 billion.

Nearly all federal government contracts lower than $25,000 must be set aside for small businesses, and many of the larger contracts also go to small concerns. "That's just part of the government business small concerns receive," says Albert Paiste, surveillance program manager in the Office of Procurement Assistance at the Small Business Administration. "Nearly all federal contracts worth more than $500,000 require large firms to set aside a portion of the work for small-business subcontractors. The percentage is determined in negotiations between the company and the government."

How can you get some of that business? A primary source for large contracts is the *Commerce Business Daily* (*CBD*), which is available in most large libraries or can be obtained on a subscription basis from the Superintendent of Documents in Washington, D.C. The *CBD* lists contracts up on the bidding block and tells which companies were awarded contracts and might need subcontractors.

For orders in the "under $25,000" category, the government is under no obligation to advertise in the *CBD*. However, all 4,500 federal-government purchasing agencies nationwide are listed in the *United States Government Purchasing and Sales Directory* (document #045-000-00226-8). The publication, which also specifies the types of products and services bought by each agency, is often available free from the SBA Office of Procurement Assistance or for $5.50 from the Superintendent of Documents (U.S. Government Printing Office, Washington, DC 20402-9371; [202] 783-3238).

—JERRY CHESLOW

PASS Play on Capitol Hill

For a quick and inexpensive way to introduce your business to some of the nation's biggest buyers, register with the Procurement Automated Source System (PASS), operated by the SBA.

PASS is open to any small business. To sign up, simply call a local SBA office and ask for the free, one-page PASS application (SBA form 1167).

Once you're on the system, you'll join 167,000 other small businesses in the search for federal dollars. It works this way: Four hundred thirty federal procurement offices and major contractors are connected to PASS. When a contract need is identified, procurement officers search PASS for potential vendors based on such requirements as location (where you operate) and specialization (how you are listed according to the Standard Industrial Classification Codes).

Although a listing with PASS does not guarantee work from the government, it does provide access to the contracting officers who make federal-spending decisions. And according to SBA official Susan Clifford, those federal procurement officers spent $35.7 billion with small businesses in 1988, the last year for which such figures are available.

—PETER G. MILLER

Data Doctors Save Drives

Hard drive crashed? Floppy flipped out? Irreplaceable data lost? Who you gonna call? Crash busters.

Crash busters, more commonly known as data-recovery services, restore information from damaged hard drives and floppy disks.

Typical clients of data-recovery services have dropped drives or reformatted them, had disks damaged by fire or flood, or suffered from data loss during power outages. "When the earthquake hit San Francisco, companies lost anything from the day's work to whole systems," says Wendy Baumgartner of Paul Mace Data Recovery ([503] 488-2322) in Ashland, Oregon.

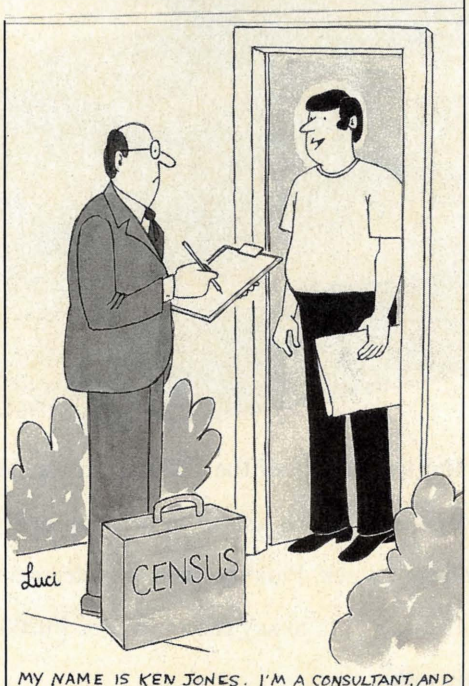
"We see a lot of people with businesses at home," says Nancy Riley of Ontrack Data Recovery ([612] 921-8530) in Eden Prairie, Minnesota. "Often their whole business is on that drive. We've developed technology that is akin to doing open-heart surgery on a drive."

The two companies operate similarly. You describe the problem on the phone and send in your hard drive and controller. An initial fee ($100–$200) covers an analysis, prognosis, and estimate. With your approval, the company recovers the data and ships the information to you on disk. You verify the recovered data, send the balance, and your hardware is returned. The whole rescue mission usually costs $600 to $700, an expense you can avoid by backing up data.

Both companies claim data-recovery success rates of about 95 percent, and Ontrack calls customers once a day with a progress report. "Average turnaround time at Mace," says Baumgartner, "is five working days. People feel we work miracles.

"We also provide moral support. People are traumatized by what's happened to them. We've heard, 'My partner will kill me'; 'My life is over'; and 'If you can't do this, I've lost my business.' People are panicky. We calm them down. We reassure them, and then we put them back in business."

—GWEN SOLOMON

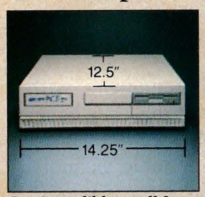


CARTOON BY LUCI MEIGHAN

Italian masters have always realized that innovative details are destined to rise above the commonplace.

Il Duomo. The dome of Florence Cathedral
Through innovative details in design and construction, Filippo Brunelleschi created what, in the 15th century, was the highest dome ever built. A masterwork of harmony and simplicity, Il Duomo marked a new standard of architecture.

The PCS 286, PCS 386SX, M290S, and M386SX. New heights of performance from one of the world's largest makers of personal computers.

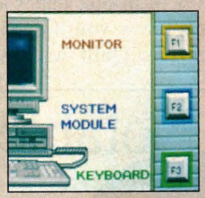


Our incredibly small footprint gives you an uncommon amount of desk space.

Innovation. At Olivetti, we achieve it through great attention to detail. Consider, for example, the details of our new MS-DOS,® OS/2® personal computers.

Notice what we've included that most others leave out.

A 16-bit VGA controller. 1 MB RAM. Intelligent hard drive interface. Serial, parallel, and PS/2® mouse ports. And all are built onto the motherboard, freeing up the three expansion slots so your capabilities can grow with your needs.



Our ingenious interactive tutorial makes learning to use your Olivetti PC a minor detail.

Then, examine our ingenious interactive tutorial. So clear and simple, you'll be up and running in no time. No small detail.

And to ensure reliability, every component in the system — from chips to disk drive to monitor — meets Olivetti's meticulously stringent criteria.

So look closely at the details before choosing your PC for home or business. Because no one should have to settle for a computer that's merely commonplace. **For the Olivetti dealer nearest you, call 1-800-447-4700.**

MODEL	CPU	MHz	Disk Drive
PCS 286	80286	12	3½"
M290S	80286	16	3½" & 5¼"
PCS 386SX	80386SX	16	3½"
M386SX	80386SX	20	3½" & 5¼"

olivetti
The details create the difference.

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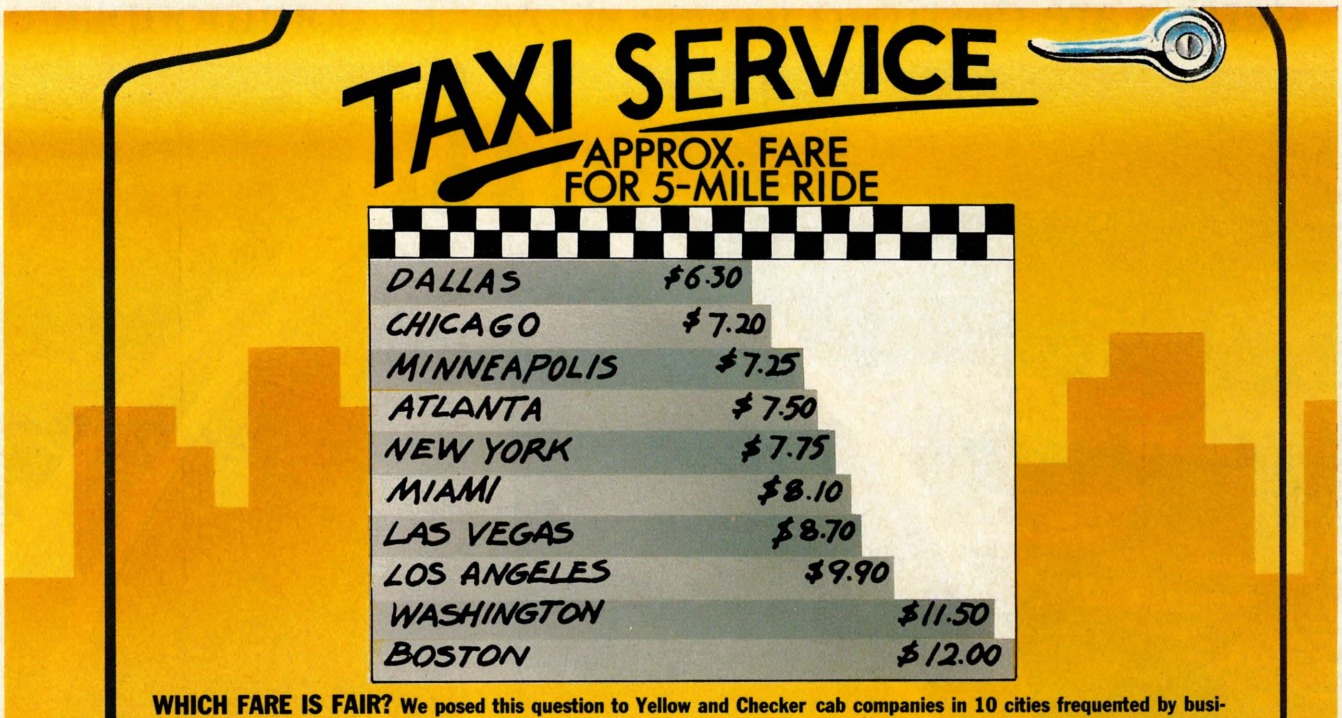


WHICH FARE IS FAIR? **We posed this question to Yellow and Checker cab companies in 10 cities frequented by business travelers. Each city has a regulatory bureau or commission that sets standard taxi rates. Though some charges are optional (such as fees for additional passengers), the rest are written in stone—at least until the next fare hike. This chart shows the approximate cost of a five-mile trip in each city.** -L. T.

ILLUSTRATION BY BOB CONRAD

Who's Who in Home-Based Businesses

Now's your chance to be included in the first compilation of businesses run from home. *The Homebased Business Directory of North America* will give home-based entrepreneurs valuable exposure to media representatives, large corporations looking for subcontractors, and other entrepreneurs looking to network.

The listing will be categorized geographically and indexed alphabetically by owner's name, business name, and type of product or service offered, and will include addresses and telephone and fax numbers. All types of home-based businesses are welcome to apply.

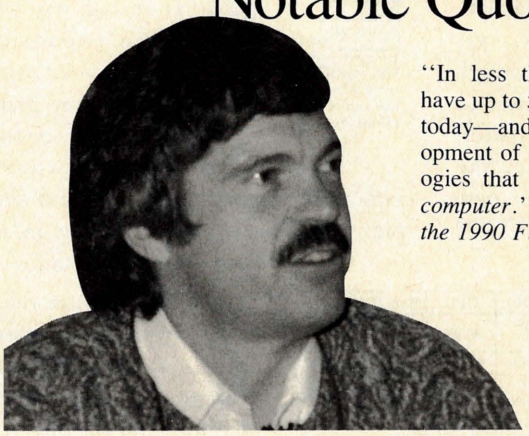
To be listed in the first edition, which is due out in October, free of charge, contact Russ Buchanan at MountainView Systems (930 S. Washington Ave., Suite 111, Scranton, PA 18505; [717] 342-2302) by August 31, 1990. —LISA THOMAS

Put More Time on Your Side

Buy in bulk. You can save time and money by purchasing large quantities of office supplies and other items that you use often. Buy rolls of stamps instead of a few at a time. Order extra boxes of printer paper and floppy disks, since you know you'll eventually use them. Stores like Quill will even discount such items as printer ribbons and ink pens when you buy them by the dozen. If you set aside an hour each month to check your supplies and replenish dwindling stock, you'll never have to worry about running out of office essentials.

—K.K.

Notable Quotable



"In less than five years, computers will have up to 50 times the power that they have today—and that power will drive the development of flexible, highly portable technologies that will redefine the term *personal computer*." —*Apple fellow* ALAN KAY *at the 1990 Fuji Summit Conference*

An optional internal modem gives all new meaning to networking at the convention.

Don't apply for another student loan. This one is absolutely affordable.

Easy reading display. Even in low light.

Actually fits on your lap. Even at 25,000 feet. Even in coach.

Use the optional RAM card like a mini hard disk. And pack all your favorite programs.

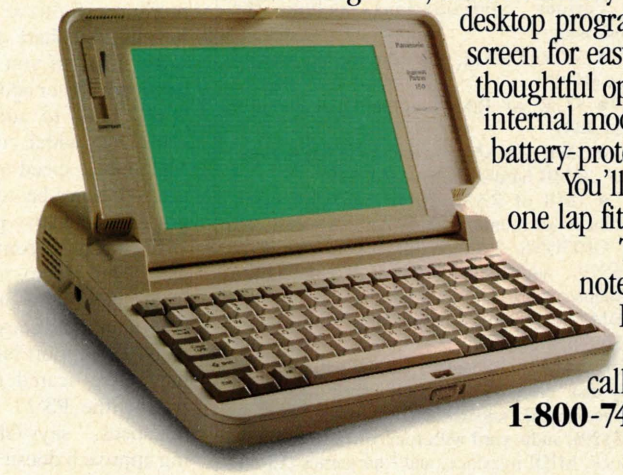
One lap fits all.

Presenting desktop power in notebook size, the Panasonic® CF-150B. At just 6.2 pounds, it's a true portable, that lets you cut loose from the traditional office. Without being cut off.

Small though it is, there's memory enough for your desktop programs. A backlit screen for easy reading. Plus thoughtful options like internal modems and battery-protected RAM cards.

You'll also find this one lap fits all budgets. The CF-150B notebook-sized PC. For more information, call toll-free:

1-800-742-8086.



Computers, Printers, Peripherals, Copiers, Facsimiles and Typewriters

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CIRCLE READER SERVICE 44

EDITED BY MARIE ALVICH-LOPINTO

Something Old, Something New, Introducing The PS/1 from Big Blue

Can a computer be sold like a VCR or a color television? Will people buy a computer in a box at a department store, take it home, plug it in, and start using it right away? IBM thinks so and has designed its new Personal System/1 as a consumer product that will appeal to all family members—especially professionals with school-age children.

The PS/1 is designed for quick assembly and instant gratification, with Microsoft *Works* 2.0, *Prodigy*, and other software already loaded onto the hard-disk drive. Available in configurations priced at $999, $1,449, $1,649, and $1,999, it will appear in limited markets this summer and nationwide in September. Authorized IBM dealers, as well as Sears Brand Central, Dayton-Hudson, and Dillard's, will carry the PS/1.

This 286 computer is small enough to fit in a variety of home environments. It comes with a mouse, a built-in 2400-baud modem, and a sharp VGA monitor. (The power supply is in the monitor, which means the system unit has a very small fan.) It even includes a phone cord to connect the computer to outside telephone lines. People can literally plug in and turn on the PS/1 (after connecting the keyboard, mouse, and monitor) and begin trying telecommunications in their first hour. That and the computer's extensive technical support from IBM make the PS/1 a significant new product, even though no single part of the computer represents any technological breakthrough.

REACHING THE MARKET

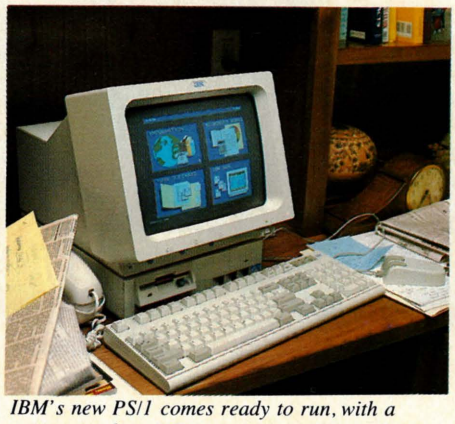
IBM wants to reach some of the 60 million households that don't own computers. To do so, IBM felt that the computer had to fit the profile of other successful consumer-electronics products, such as color TVs, VCRs, and microwave ovens.

But computers are different from other consumer-electronics products because they can be hard to operate, and people worry about service and technical support. "A lot of people who say they've got to get a computer never do because they're scared they won't be able to operate it," says Skip Gladfelter, vice president of marketing for IBM's Entry Systems unit. IBM is bending over backward to ease such consumer fears.

PS/1 owners can get answers to their questions from a toll-free support number (for over-the-phone diagnosis of equipment problems) or IBM technicians through the computer. How? The PS/1 includes a subscription to Prodigy, the joint IBM-Sears on-line network, which includes access to a special PS/1 users' group run by IBM technicians.

When I tried the system, it was "under construction," so it's hard to judge how effective it will be or how quickly a user will get answers. But direct access to IBM is a potentially great service. Technicians will answer both hardware and software questions, since so many users have trouble distinguishing the real cause of computer problems. After three free months, users can pay $9.95 a month if they want to continue their Prodigy subscription.

Also included in the carton is a coupon for a subscription to Quantum Computer Services' Promenade, another on-line service exclusively for IBM PS/1 owners. Promenade was also under construction when I tried it. "Beyond getting technical support," says Gladfelter, "we think people will use the communications capability to explore."



IBM's new PS/1 comes ready to run, with a mouse, modem, VGA monitor, and several software extras already installed.

THE IBM PS/1 AT A GLANCE

All models include a 3.5-inch, 1.44MB floppy-disk drive, an IBM Selectric Touch keyboard, an IBM Photographic Display monitor (either monochrome or color VGA), a mouse, a phone cord, a 2400-baud modem, Microsoft *Works* 2.0, a system tutorial, a Prodigy subscription (three free months), a coupon for a subscription to Promenade, a DOS shell in ROM, IBM DOS 4.1, a headphone/speaker jack, a built-in speaker, a parallel port, a memory upgrade slot (from 512K to 1MB), and an audio/MIDI slot.

Various configurations include the following:

- 512K of RAM, monochrome VGA monitor ($999)
- 512K of RAM, color VGA monitor ($1,449)
- 1MB of RAM, monochrome VGA monitor, 30MB hard-disk drive ($1,649)
- 1MB of RAM, 30MB hard-disk drive, color VGA monitor ($1,999)

OPTIONS: 3.5-inch 30MB hard-disk drive ($599); additional 512K of RAM ($200); Adapter Card Unit with three slots ($169); IBM Photographic Display color VGA monitor ($699); 5.25-inch 360K external floppy-disk drive ($299); 5.25-inch, 1.2MB external floppy-disk drive ($299); audio card with four-voice sound, joystick, and *Carmen Sandiego* ($129); audio card with four-voice sound, joystick, MIDI interface, and four games ($249)

AN OFFICE TOOL?

Is the PS/1 a good productivity tool? Assuming you buy a 30MB hard-disk drive model, which comes with 1MB of RAM, the computer is capable of running all MS-DOS software at adequate speed (10 MHz) and displaying it with great clarity on the IBM Photographic Display (a VGA monitor). The IBM Selectric Touch keyboard has that old Selectric typewriter feeling. And the modem gives you access to any electronic mail or information service.

The PS/1's main drawback is a lack of internal expandability. You can add a printer (via parallel port) or an audio/MIDI card that produces digitized music and speech, but beyond that there are no built-in expansion slots. Thus, if you want to expand memory beyond 1MB or add a scanner or a fax board, you'll have to add the three-slot Adapter Card Unit, which costs $169. Finally, the 10-MHz clock speed may not be fast enough to run *Windows*-based applications and other graphics-intensive programs smoothly.

Experienced computer users who shop on price and try to impress salespeople with what they know aren't going to like this computer. The question is, Will professionals who have put off buying a computer because they were scared feel comfortable enough buying the PS/1? "We're selling benefits, not specs," says Gladfelter. "If this marketing approach doesn't work, we have no backup. We'll have to start again from scratch." I think the PS/1 will attract first-time buyers, because it's as easy to buy and start using as any other computer ever sold. The PS/1 package takes a lot of the confusion out of buying a computer and getting started with it.

—NICK SULLIVAN

See page 79 for product information.

The four stages of computer literacy:

Fear

Anger

Denial

Bliss

PCs are just like any personal problem: it helps to know where to go for advice. After 14 years, 400 titles and over 15 million books sold, perhaps no one knows more about computer self-help than Sybex. ¶ Take our *ABC's* series. It gives beginners all the courage they need to boot up and get busy, with simple steps and practical examples in plain English. ¶ Our *Understanding* and *Mastering* series take you right up the learning curve. With comprehensive tutorials. Extensive examples. And helpful extras like margin notes and complete indexing. ¶ There may be other ways to learn computers than Sybex books. But why deny yourself the pleasure?

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CIRCLE READER SERVICE 49

New *Windows* Makes Computing Easier and More Enjoyable

If you're put off by the complexity of computing, or if you want a more efficient and enjoyable way to use your computer, great help is now on this side of the horizon. At a New York City press conference in May, Microsoft introduced *Windows* 3.0, the latest release—and significant enhancement—of its graphical user interface for IBM-compatible computers. *Windows* 3.0 is a major breakthrough for almost all PC users and probably represents the standard to which new IBM-compatible business software will conform.

Windows 3.0 is essentially a program that gives DOS a new face. A graphical user interface is a way of presenting information on the screen so that you can issue commands by pointing to pictorial representations of both files and commands (usually with a mouse) rather than typing cryptic commands at the keyboard.

This new version of *Windows* contains several features that are valuable to all computer users: a clean, easy-to-use, easy-to-learn, and visually exciting user interface (with the ability to manage all of your files with the click of a mouse button), much better use of all of your computer's memory, and considerably faster performance than earlier versions of *Windows*. In essence, Microsoft has accomplished the significant feat of giving you more control over your computer by making it easier to use. And because dozens of publishers are creating applications that work with and look just like *Windows* 3.0, you'll be able to create a computing setup that works for you. Be warned, however, that *Windows* 3.0 requires fairly significant computing power: a 286 or 386 machine, a graphics adapter (VGA is best), a hard-disk drive with at least 6MB of free space, and at least 640K of RAM. (Actually you really need 2- to 4MB of RAM to get the best performance from this package.)

WINDOWS AND DOS

Instead of the usual C> prompt on a black screen that most of us are familiar with, what you see is a colorful set of partitions (windows) on the screen, each of which contains icons representing programs or data files that you can use. (*Windows* comes with a simple word processor, a paint program, a telecommunications program, a calendar, and a card-file database, but it's doubtful that you could run a business with just these programs; you'll still need a "real" word processor, for example.) You can have several windows open simultaneously with a separate program running in each. You can move from program to program instantly (imagine keeping several files open on top of your desk for easy access).

In addition to listing all of your programs, Windows *3.0 gives you 11 other programs to choose from.*

Windows lets you easily share information between programs. For example, you can quickly cut and paste a graphic image into a word-processing file or even copy data from a non-*Windows* DOS application into a *Windows* application. Another facility, called Dynamic Data Exchange, lets a file in one program automatically update similar information in a file in another program. So when you change some numbers in a spreadsheet file, the graph in your desktop-publishing program will automatically be updated to reflect the change.

Perhaps one of the most important areas where *Windows* 3.0 shines is in memory management. Because *Windows* 3.0 runs only on 286- or 386-based computers, it is smartly designed to automatically make use of all the memory and power your computer has. This means that if you have more than 1MB of memory, you'll be able to keep many programs and very large files open at the same time, improving your productivity. For people who work with large spreadsheet, graphics, or desktop-publishing applications, this is a real benefit. And unlike earlier versions of *Windows*, 3.0's setup is virtually automatic (of course you can customize it later). *Windows* 3.0 really shines on 386 systems, where it can run in a special enhanced mode using your hard drive as an additional source of RAM. For example, on the 6MB system that I used to run *Windows* 3.0, the software told me that it was actually using nearly 8MB of RAM!

WINDOWS AND SOFTWARE

While most of your existing software will work with *Windows* 3.0, it will still look just like it always does; your character-based word processor won't suddenly acquire fancy pull-down menus and 3-D scroll bars. Most existing *Windows* software is currently being updated; such popular products as *Ami Professional*, *Word for Windows*, IBM *Current*, and Microsoft *Excel* are already available in 3.0 versions that take full advantage of the user interface and memory-management functions. At press time, most major publishers had *Windows* 3.0 upgrades of existing software available or ready to be shipped. Many major hardware manufacturers (Compaq and IBM are notable exceptions) say they will bundle *Windows* 3.0 with their computers. Zenith has even announced that its computers will have *Windows* 3.0 already installed on the hard disk.

Finally, *Windows* makes using your computer fun. Version 3.0 comes with a strategy game called Reversi and solitaire. The whole look of the program and the way you interact with it are downright pleasant. And if you enjoy using your computer more, chances are you'll be more productive with it. So whether you're a personal-computer tenderfoot looking for a little hand-holding or a veteran who uses more than one application during the course of a day, *Windows* 3.0 will vastly improve the quality of the time you spend using your system.

—ROBERT GEHORSAM

SYSTEM REQUIREMENTS: A 286, 386SX, 386DX, or 486-based personal computer; DOS 3.1 or higher; 640K of RAM (256K of extended memory recommended); 3.5-inch or 5.25-inch floppy-disk drive; hard-disk drive; CGA, EGA, VGA, 8514/A, or Hercules display system. Microsoft-compatible mouse or other pointing device is strongly recommended. List price is $149; upgrade for registered *Windows* users is $50 (for more information call [800] 323-3577). ■

"So, this punk comes up to me and says, 'Is there anything you won't do for a buck?' And I say, 'Sure. I won't plug in my PC without a Proxima product to protect it.'"

"I may be crazy, but I'm not stupid."

"When people tell me I take foolish risks, I say to them: 'At least I assess the risks, and I always take steps to protect myself. Do you?'

"Take many microcomputer users. They're cool and calm, just cruising along until – *wham!* – they've crashed. Lost all their data, maybe even burned out a motherboard. Yet they sit there, stunned. They had no idea they were at risk.

"Or maybe they just thought it would never happen to them. Yet studies indicate that every AC outlet in America has a 97% probability of incurring at least one system-damaging event each year.

"Whether it's a Proxima® ProLine™ Surge Suppressor that clamps down on incoming surges and spikes – or a Power Director® that protects against power problems *and* acts as a power control center – your micro needs ultra-reliable protection against the 101 power problems that threaten it.

"So check out the entire range of innovative Proxima Power Protection Products. And ask about the Proxima Lifetime Equipment Protection Policy. With the purchase of a ProLine 20 or 30, or a Power Director, it guarantees the survival of your hardware from a power problem – for life."

Whether you're operating a home computer or a technical workstation, there's a state-of-the-art Proxima ProLine to match your needs.

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by Computer Accessories Corporation

CIRCLE READER SERVICE 32

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Computer Accessories Corporation will change its name to Proxima Corporation in November, 1991.

Readers Talk Business

EDITED BY KAREN KANE

WANTED: NO-HASSLE PAPERWORK

I run a small mail-order business out of my home and am finding the paperwork involved oppressive. There is so much to do and keep track of: vendors, products, inventory, mailing lists, back orders, billing, packing lists, mailing labels, and more. Is there an integrated package for my IBM-compatible computer that will do all this as well as the normal accounting functions?

MATT HOLZAPFEL
Mesquite, Texas

Money Matters ($89.95 from Great American Software, 615 Amherst Street, Nashua, NH 03063; [603] 889-5400 or [800] 388-8000) may be just what you need. This bookkeeping and accounting program, designed specifically for small businesses, will help you track inventory, record information on products and vendors, generate mailing labels and receipts, and automate check writing. You'll find a review of *Money Matters* on page 28 of the July issue. As your business grows you can easily adapt the program to work with more sophisticated accounting programs like *One-Write Plus* ($299), also from Great American Software.

Another, more expensive option is to hire a database consultant to design a program specifically for your business. If you do this, bear in mind that you will likely become dependent on the consultant for troubleshooting and for program updates and alterations.

DOES MY NEWSLETTER HAVE COMPETITION?

I am interested in using my computer's desktop-publishing capabilities to start a subscription newsletter aimed at a particular group of automobile collectors and enthusiasts. Before I begin, I would like to find out if there are any similar organizations or publications that already provide the type of service I am planning. What is the best place to get this type of information? Also, are there any reference materials with instructions on starting up a newsletter?

CHRIS GANTNER
Kokomo, Indiana

If you were attuned to your potential audience and the topic of your new publication, you would probably already know if such a newsletter existed. According to the Newsletter Clearinghouse, which publishes a directory of more than 4,000 subscription newsletters, there are about 35 automotive newsletters worldwide. You might want to take a look at this directory ($99; *see Newsletter Clearinghouse address below*) and check it for any competition. You should also search your library's periodicals index for related automotive publications, check the classified ads in consumer car magazines, and contact car clubs and associations to see if they publish any free newsletters.

Once you are satisfied with your market research, the following resources will help you get started:

- *Publishing Newsletters*, by Howard Penn Hudson (originally published 1982, revised in 1988; $12.95 or $15.50 with postage and handling; Newsletter Clearinghouse, P.O. Box 311, Rhinebeck, NY 12572; [914] 876-2081), is a step-by-step guide to creating and marketing a newsletter. The revised edition contains information on desktop publishing.
- *How to Start and Promote Your Own Newsletter for Profit and/or Personal Image Building*, by Howard L. Shenson ($79 for three cassettes and handbook; from Howard L. Shenson, 20750 Ventura Blvd., Suite 206, Woodland Hills, CA 91364; [818] 703-1415), doesn't focus on computer techniques, but Shenson offers strategies for selecting a topic, a name, and a production schedule, figuring out costs, and building a subscriber base.
- *Looking Good in Print*, by Roger C. Parker ($24; Ventana Press, P.O. Box 2468, Chapel Hill, NC 27515; [919] 490-0062), is a guide to design basics for newsletters, correspondence, brochures, and advertising in a before and after format.

SEND US YOUR BUSINESS QUESTIONS & TIPS

If you have any home-office or business questions that you'd like answered, or advice that's sure to help other readers, write to us at ShopTalk. If we print your letter, we'll pay you $25. Address correspondence to ShopTalk, HOME-OFFICE COMPUTING, *730 Broadway, New York, NY 10003. Name, address, and telephone number must be included. Because of the volume of mail, we are unable to respond to every letter.*

READERS GIVE ADVICE

FAST WAY TO SAVE BUSINESS CARDS

I found a great way to organize the piles of loose business cards I had stuffed in drawers and stacked on my desk: Self-adhering Cardwear Strips attach to the bottom of business cards so that they fit right into a standard Rolodex file. I even attach the strips to my own business cards before handing them out to make filing easier for my clients. Price: $15 for 300 or $6 for 100. Contact IZER International, 8467 Melrose Place, Los Angeles, CA 90069; (800) 422-4432.

RICHARD J. MATURI
Cleveland, Ohio

TOO ORGANIZED?

Because my desktop-publishing and word-processing business keeps me at my desk in front of the computer every day, I organized my office so that the telephone, reference books, and files were within arm's reach. This arrangement was efficient, but a few months ago I developed a back problem as a result of too much sitting. Now, I have things arranged so that I must get up and walk across the room to check a printout or answer the telephone. Organizing your office for efficiency is important, but organizing for your health takes priority.

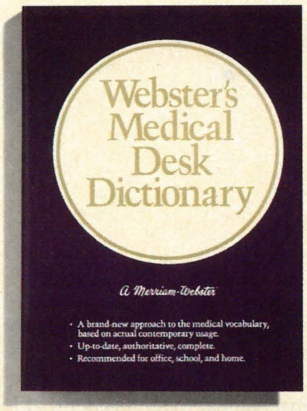
VERA-JANE GOODIN
GOODIN ENTERPRISES
Springfield, Missouri

PUT YOUR PROTECTION IN PRINT

All artists, writers, and photographers should take a few simple steps to protect the material (manuscripts, artwork, photographs, and so on) they produce. I always print the copyright symbol, the date, and my name, address, and phone number on any work before it leaves my office. That way, people who come across my work know to contact me if they want to use it. I also recommend the excellent book *Legal Guide for the Visual Artist*, by Tad Crawford, a teacher at the School of Visual Arts (revised 1989; $18.95 plus $2.50 shipping fee; Allworth Press, 10 E. 23rd St., New York, NY 10010).

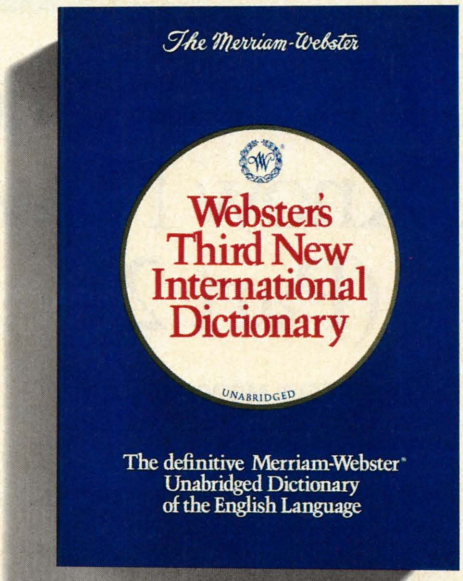
DONALD J. NARGI
D.J. NARGI & ASSOCIATES
Hughesville, Pennsylvania

To succeed in business, you need excellent references.



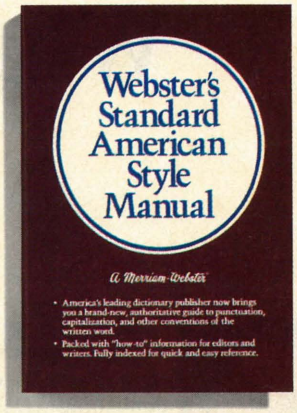
"This new medical dictionary will take its place, within easy reach, on my shelf of reference books."

Lois DeBakey
Baylor College of Medicine



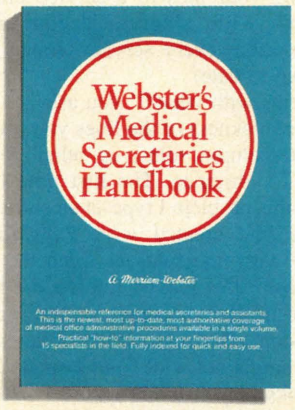
"It's the closest we can get, in America, to the voice of authority."

The New York Times



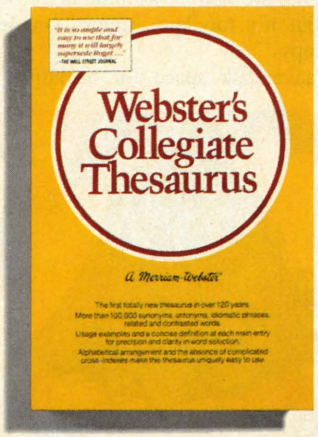
"Useful to the executive, secretary or any other person who must compose memos, reports, letters, newsletters and more."

Office Systems '85



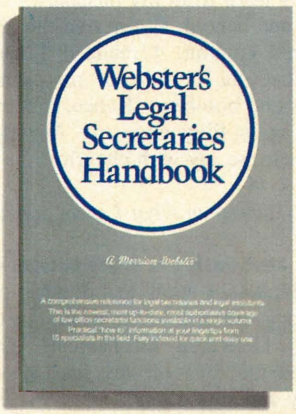
"This is a tightly-packed book of facts for medical secretaries and medical assistants/administrators . . . this one is comprehensive and handy."

Library Journal



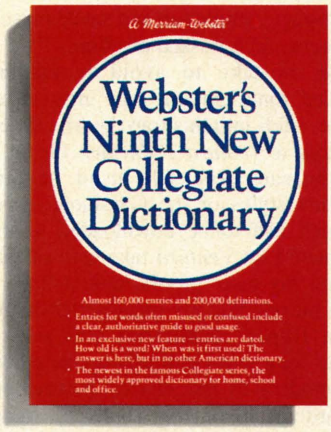
"It is so simple and easy to use that for many it will largely supersede Roget's . . ."

The Wall Street Journal



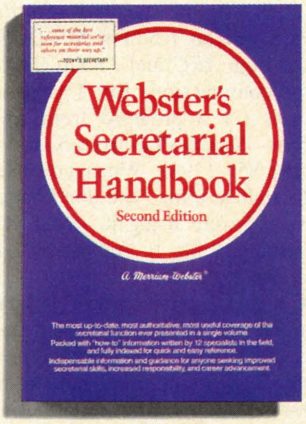
"A useful addition to the library of any young lawyer starting in practice, an office administrator or manager, or the desk of a legal secretary."

The Altman & Weil Report to Legal Management



"Whenever I have a question about words, it's the New Collegiate to the rescue."

Robert Quinn, VP Advertising
Sheraton Corporation



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CIRCLE READER SERVICE 39

"If I Knew Then What I Know Now . . ." (Part 2)

BY STEVE MORGENSTERN

Ordinarily I try to fill this space with examples of how to do desktop publishing (DTP) the right way. Last month, though, I decided to step out from behind the curtain and show you how I had done it wrong. The idea was to let readers learn from my mistakes.

Lo and behold, as I neared the end of last month's column, I realized I had barely scratched the surface of my accumulated gaffes and boo-boos. Hence, this month we once again fling open my Anxiety Closet and hear me say with chagrin:

If I knew then what I know now, I would have . . .

. . . kept double or triple backup copies of my DTP files. I wrote and desktop-published a 32-page booklet for an insurance-company client. Delivered mechanicals. Got paid. Copied the files off my hard disk onto a floppy and stored them.

Six months later, the phone rings. Insurance regulations have changed. They need minor revisions throughout the brochure. No problem. I quote them a low price, knowing there really isn't much work to be done. Take out the backup floppy. Insert it in disk drive. Load publication.

No dice. No way. Uh-uh. Perspire heavily. Try various disk-fixing utility programs. Forget it. For a perverse moment I thought I heard the disk drive laughing at me as the heads merrily skipped across the completely unreadable surface. I then sat down to recreate the entire booklet from scratch.

There's nothing special about my story, I suppose—everybody loses valuable files to magnetic gremlins. But it won't happen to me again. I now keep triple backups of important files.

Three copies? The impeccable logic behind this strategy came to me courtesy of *The Macintosh Bible* (Goldstein & Blair; 1989), a book of tips and techniques I heartily recommend. I quote: "Let's say you have only two copies of something and your disk drive screws up. You insert the first disk and see garbage on the screen. Naturally you assume there's something wrong with that disk, but you're not worried, because you have a second disk with the same document on it. So you insert the second disk and the drive zaps that, too. At that point you realize the problem is with the drive, not the disk, but it's too late—unless you have a third copy."

To save disk space for backups, I use

utility programs that compress files to a fraction of their original size. For my Macintosh files I stick with the standard—*StuffIt* in its shareware version 1.5. For MS-DOS files, I've used both *ARC* and *PKZip* (both shareware) for compression. But I have a special fondness for a program from my native Brooklyn—*Squish Plus* from Sundog Software ([718] 855-1796). When you use *Squish Plus* to archive a file, you don't have to decompress it before using it—the software will restore the file to full size as it reads the disk, saving a step.

. . . typeset a few sample pages before sending an entire job for high-resolution imagesetter output. For most of my work, I use the laser printer for working proofs and send out for high-resolution Linotronic imagesetter output for mechanicals. The laser printer offers 300-dot-per-inch (dpi) resolution; the Linotronic is at least 1,270 dpi (you can also get 2,540 dpi from a Linotronic, but it costs more and you won't see the difference when outputting type). I pay between $7 and $10 a page for Linotronic output, and deliver a mechanical to the printer that looks every bit as good as a traditional typeset job.

However, there is plenty of room for error between your laser-printer output and the imagesetter results. This is especially true if you are working with an MS-DOS system and sending your files to a service bureau that works with Macintosh equipment (which describes every service bureau I've encountered to date).

"Problems with what?" you ask.

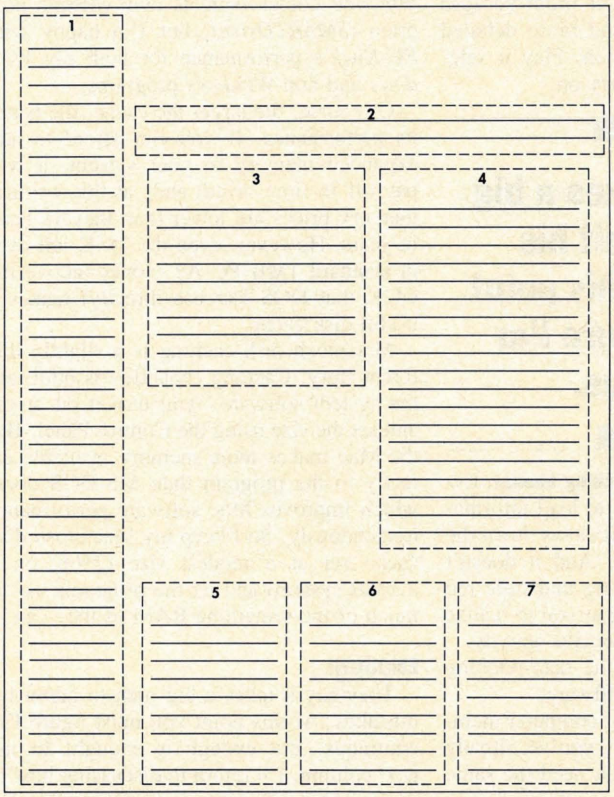
With the thickness of the lines you use for boxes, intercolumn rules, or other design elements, for instance. The first time I encountered this problem I typeset an entire 24-page magazine created with *PageMaker*, each page with fine rules between the columns. Those rules looked fine on the laser proofs but nearly vanished on the imagesetter version. The reason? The rules were printing a single dot wide, and a single 300-dpi dot looks very different from a 1,270-dpi dot. The solution that time was to manually paste laser-printed rules onto each page. The real answer, however, is to adjust your printer driver for 1,270-dpi resolution before saving to a file and sending the file to the service bureau. I could have learned the same lesson on a three-page sample run and saved myself gluey fingers and a missed deadline.

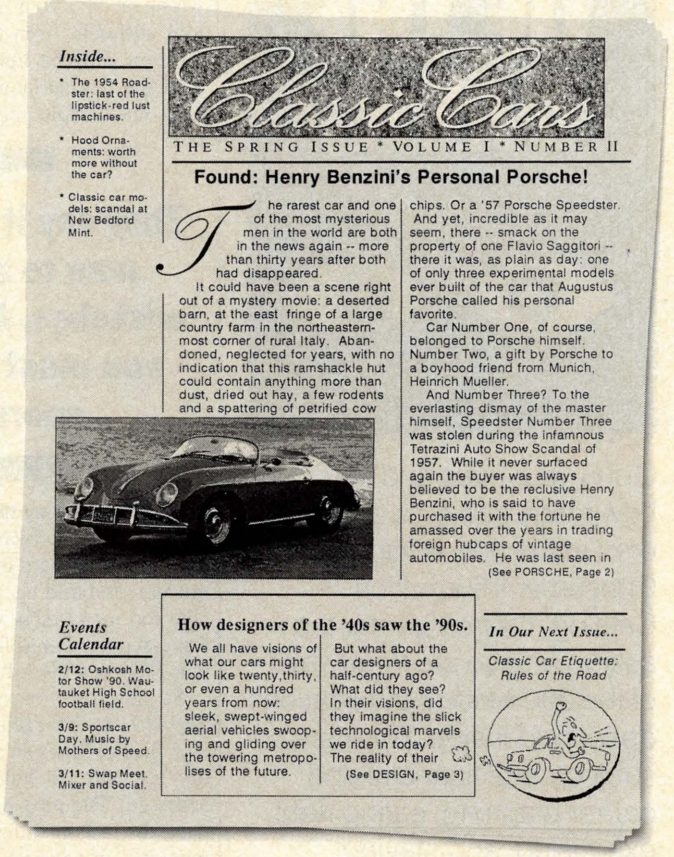
Another mistake to avoid is making downloaded fonts part of your imagesetter output file. I fell into this trap the first time I tried setting a *Ventura Publisher* file at a service bureau. The file used several weights and styles of the Garamond typeface, which had to be downloaded to the laser printer. I let *Ventura* take care of that chore, and my laser proofs looked fine. It seemed a bit odd that my imagesetter output file for a 10-page publication was several megabytes long, but I dutifully uploaded the file via modem to the service bureau and soon heard the distinctive sound of something hitting the fan—the file would not run at all. What turned the mistake into a disaster was the fact that the service bureau employees knew less than nothing about *Ventu-*

STEVE MORGENSTERN *is a contributing editor for* HOME-OFFICE COMPUTING.

ILLUSTRATION BY STEVE PARTON

Jumpstart your newsletters.





You can go from "Layout Gallery" to finished page in a matter of minutes.

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If you can type at all, getting started couldn't be easier. If you need help, we've got the best context-sensitive help screens in the business as well as an on-line manual.

PFS:First Publisher also lets you import and export text from more word-processing programs than any other software in its class. And it offers more typefaces and graphic images, including many at 300 dots per inch — the best any laser printer can print.

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CIRCLE READER SERVICE 48

IT'S TIME TO GET OUT OF THE DARK.

Open your eyes and see just how many subjects are covered in the new edition of the Consumer Information Catalog. It's free just for the asking and so are nearly half of the 200 federal publications described inside. Booklets on subjects like financial and career planning; eating right, exercising, and staying healthy; housing and child care; federal benefit programs. Just about everything you would need to know. Write today. We'll send you the latest edition of the Consumer Information Catalog, which is updated and published quarterly. It'll be a great help, you'll see. Just write:

Consumer Information Center Department TD Pueblo, Colorado 81009

A public service of this publication and the Consumer Information Center of the U.S. General Services Administration

ra Publisher—they were all-Mac and unnecessarily proud of it. I finally got the answer from *Ventura* technical support—reset the font information from "download" to "resident" in *Ventura* before creating an output file. It worked OK. But the job was *really* late.

And remember that, even if nothing goes wrong at all, your imagesetter output will look different from the laser proof because the type will be lighter and more detailed than the laser-printer version. Play it safe. Set some sample pages early on.

They say it takes a big man to admit his mistakes. At this point you must figure I'm enormous.

. . . started using disk caching sooner. Every time DTP software has to load information from your hard drive, it slows down the process of building pages. And it doesn't take too many days watching that little red drive-activity light blinking at you to realize that DTP is a hard-disk-intensive activity.

So how do you speed the data-fetching crawl? Use disk-caching software.

A disk cache is an area of computer memory set aside to hold data you've already accessed. The next time you need the same data, the disk-caching software looks first in memory—if what you need is there, it loads from memory rather than loading from the hard drive. Loading from memory is much, much faster. And you'll find that your computer frequently does need to reread the same data over and over again.

A disk cache is different from a RAM disk. When you set up a RAM disk, the computer treats a section of memory as if it were a real disk drive. It reads files from that area, but it also writes files to that area; so if you turn off the power before copying files in a RAM disk to a floppy or hard disk, those files are flushed down the electronic toilet. A disk cache, on the other hand, will read information from the cache but write changed files directly to the disk drive. Much safer.

I'm not using a state-of-the-art PC for my desktop-publishing work. Budget constraints dictate a middle-of-the-road AT clone on the MS-DOS side and a plain SE for my Macintosh work. I sometimes forget to load the disk-caching software on the AT before I start working, but I don't forget for long. *PageMaker* in particular moves so much more s-l-o-w-l-y without caching that my mistake is immediately apparent.

My current choice for MS-DOS disk-caching software is *Super PC-Kwik* from Multisoft ([503] 644-5644). It is fast and flexible, works well using its default settings, can be customized if you're into that, and has been entirely reliable. Microsoft *Windows* comes with its own caching program (*SMARTDrive*), but I'm happy with *PC-Kwik*'s performance for both my *Windows* and non-*Windows* programs.

Of course, the larger the cache, the better its performance. If you can afford to add expanded memory to your system, it will pay off in time saved; and, at this writing, memory prices are lower than they've been in years. However, even the 384K left over in standard 1MB PC AT clones (above the 640K that DOS can use directly) makes a useful disk cache.

Macintosh disk caching is a slightly different story. Caching capability is built into the system software—you turn it on or off and set the size using the Control Panel. But the Mac makes more memory available directly to the program than MS-DOS does, which improves Mac software performance tremendously. So I keep my Macintosh disk cache set at a modest size (256K on a 2.5MB system) and let the programs use as much of the remaining RAM as they can.

ENOUGH!

They say it takes a big man to admit his mistakes. At this point you must figure I'm enormous. But enough is enough! In my next column, I'll return to discussing how to do it right the first time out. Of course, I'll keep jotting down notes at those odd moments when my own projects don't turn out precisely as planned and will share them with you when I have enough of them. I sincerely hope that will be several years from now.

But I doubt it. ■

LAST MONTH'S MISTAKES

In Part 1, the five things Steve Morgenstern said he would never do again are

- start off with a hard-disk drive that's too small—80MB minimum next time;
- wait to get a full-screen monitor—too many benefits in saving time and ease of working to worry about the cost;
- buy expensive fonts he'd use once in a lifetime—there are several, less costly solutions;
- not buy via mail order—the good companies offer good values and get you the goods on time; and
- forget to go back to his software's manuals—lots of timesaving tips are buried there.

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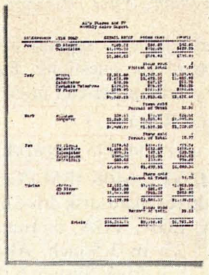

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Phone Sales Can Feed a Growing Business

BY STEVEN F. EDWARDS

With the Right Software, You'll Get Your Slice of The Telemarketing Pie

"The nice thing about telemarketing, as opposed to newspaper or magazine advertising, is that when you're on the telephone, no one knows how big your company is . . . so it doesn't matter if you have a billion-dollar ad budget or no ad budget—telemarketing is the great equalizer," says Joel Gilgoff, a telemarketing consultant in Sedona, Arizona. "If well trained, you can compete on a call-by-call basis with anyone."

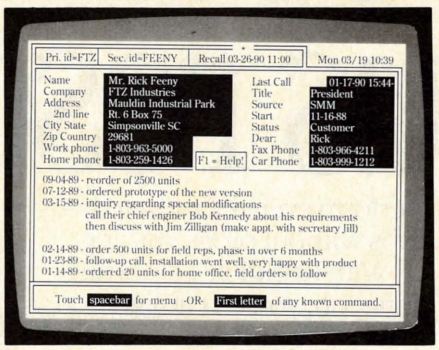
Personal computers and software now give the small telemarketer almost equal footing with the giant telemarketing service bureaus. Using a computer, modem, and one of the 50 to 60 telemarketing programs available, you have the same capabilities as companies a thousand times larger.

Even so, many people still use index-card systems, even though manual systems have major failings. "One problem with cards," says Gilgoff, "is that you can sort them only one way. Either they're in alphabetical order by the name of the prospect or they're by follow-up date or telephone number. When someone calls you back, it's hard to find the card." Automated systems sort records any way you like. Also, since it can take five calls to close a sale, keeping up with a manual system is much harder.

Staying in touch is also very important to your success. Perhaps the biggest reason clients or customers drop you is not that they're dissatisfied with your service or product but that they didn't hear from you often enough. An automated telemarketing system helps you retain customers by periodically reminding you to call them.

But should *you* automate? Software developers and telemarketing consultants point to the statistic from a 1987 survey in *Sales and Marketing Management* magazine that salespeople with computers and just the basic software packages, such as word processors and spreadsheets, are 43 percent more productive than those with manual systems. However, with specialized sales software, the survey goes on, the average seller can boost productivity by 80 to 300 percent. Still, as the editors of the telemarketing magazine *Inbound/Outbound* stated in a recent article, "A computer can't close, cross-sell, up-sell, or deal with objections. That's for people. But what a computer does well is help organize a seller and his sales effort."

STEVEN F. EDWARDS, *a San Diego–based financial and computer journalist, wrote "Electronic Filing: Is It Worth It?" in the March 1990 issue.*



TeleMagic

Rating: ★ ★ ★ ★

AT A GLANCE: Telemarketing tool that helps make calls, track conversations, arrange follow-ups. Well suited for home-based phone sales.

DOCUMENTATION: Complete, well-organized, but could use screen shots.

ERROR HANDLING: Easy to back out of mistakes.

EASE OF USE: Does what it's supposed to straightforwardly, with easy-to-remember commands.

SUPPORT: Unlimited telephone support for one year, and bulletin board for questions. Further support available for yearly or per-call price.

VERSION REVIEWED: Release 11

PRICE: $495 (single user); $1,495 (network)

SYSTEM REQUIREMENTS: 640K IBM PC*, PS/2 or compatible; two drives (hard-disk drive highly recommended); CGA, EGA, VGA, or Hercules; DOS 2.0 or higher; 5.25- or 3.5-inch. Also for 1MB Macintosh; hard-disk drive; System 6.0.3 or higher

PUBLISHER: Remote Control International, 5928 Pascal Ct., Suite 150, Solana Beach, CA 92075; (619) 431-4000, (800) 992-9952

JUST MADE FOR SELLING BY PHONE

Given the number of telemarketing programs around, I chose to review *TeleMagic* for IBM PC and compatibles (also available for the Macintosh), which comes highly recommended by George Walther, author of *Phone Power* (published by Berkley Books) and a leading telemarketing expert. *TeleMagic* is the top-selling personal-computer telemarketing program by a substantial margin, but having the most users doesn't necessarily make it the best program for you. However, as Walther, a *TeleMagic* user, points out, "You're more likely to run across somebody who's already using this program than any other." That can help if you're looking to hire knowledgeable telemarketers, or if you just want to find others with whom to trade information on using the product in new and exotic ways.

Beginners are aided by the section in *TeleMagic*'s manual that takes you through a typical telemarketing sales cycle with a sample call list. Everyday learning is also enhanced by an on-screen, context-sensitive help library that explains most features and menu selections. And if you just play around with any program first, like I do, you'll find *TeleMagic* easy enough to learn without the manual simply by using the sample database.

Of course, easy-to-use software would be worthless without a wealth of features that support your telemarketing efforts. *TeleMagic*'s Call Management, for instance, makes it easy to operate the program while talking on the phone. *TeleMagic* dials automatically with a modem and lets you use telephone headsets, important for hands-free telemarketing.

The prospect call screen is well laid out, with seven fields that you define to track information specific to your business. Although *TeleMagic* supports scripts, which allow for standardized responses to customer inquiries, the scripts won't automatically branch—that is, move to another level of a script with a single keystroke, depending upon the customer's response. But you can bring up a branch script the same way you brought up the main script, and in two keystrokes it'll be on-screen.

To record a conversation's details, the notepad holds up to 64,000 characters and has automatic date and time stamping, extremely useful for tracking conversations. It's also easy to schedule a follow-up call, important in building long-term relationships. Just enter a recall date, time, and

optional call type. Again, *TeleMagic* makes it easy. For example, if you want to call back in three days, just enter "3D" and *TeleMagic* calculates the recall date. To indicate a call type, enter a single letter that designates it as an appointment, follow-up to promotional literature, a closing, or a note to ask how the customer is enjoying your product.

You send a follow-up letter with just a few keystrokes, after you've set up and written the letter's template. Or you can quickly follow up the call with a fax, voice mail, or e-mail from within *TeleMagic*. One improvement that Walther would like to see in the follow-up system is linking several future events together so that, with one or two keystrokes, *TeleMagic* would do a thank-you letter, say, then a precall letter the following week, and only then do the follow-up phone call.

Telemarketing can be easily justified by looking at the average costs of a sales call—over $250 for an in-person call versus less than $20 for a phone sales call.

Since a busy call schedule can quickly eat up time, *TeleMagic* lets you set an unlimited number of alarms each day, which include brief messages that flash in the middle of the screen.

There are a number of ways to find a particular prospect or record. Select "Go To" to search for records by predefined primary and secondary I.D.'s, recall date, first record to call, or the last record added. A handy bookmark feature saves your place if you want to return to the same record.

TeleMagic groups records for special reports or calling campaigns. You create up to 50,000 different *filters*, which select records based on any of the fields, such as city, state, or customer type, using rules of logic, such as "AND, OR, EQuals, and Not EQual." In addition to standard reports—such as telephone usage, phone listing, and scheduled calls—*TeleMagic* also creates custom reports.

Any marketing program is only as good as the list it's based on. Many lists purchased from brokers have duplicate, incomplete, or out-of-date records that need to be amended. And if several people are using the same list, they can inadvertently create duplicates. *TeleMagic* will find and eliminate duplicates with the same primary I.D.'s; and there's a program available in *TeleMagic*'s *Products and Services Catalogue* called *King Tut* for managing lists.

WORKS WITH THE REST OF YOUR SYSTEM

No high-quality software, no matter how well-integrated, is an island. Even though *TeleMagic* includes a basic word processor and calculator, the Auto-Swap utility makes it simple to switch between your favorite word processor or spreadsheet and *TeleMagic*. And if you sell a product, you can get an order entry module from *TeleMagic*'s publisher that links with several accounting programs, such as *SBT* and *Open Systems*.

TeleMagic also moves data between programs, importing a new call list or exporting the prospect list to a spreadsheet, for example. You can export information as a comma-delimited ASCII file or in the widely supported *dBase III* format. There are three ways to import data: using files with all fields of fixed length, comma-delimited files, or *dBase III* files.

TeleMagic not only can help your business grow, it has versions that will grow (and go) with you. For those on the move, there's a version for laptop computers; and if you need to automate several telemarketers, *TeleMagic* supports local area networks (LANs).

JUST MADE FOR SELLING AT HOME

Telemarketing can be easily justified by looking at the high costs of having a salesperson call on customers. Studies by McGraw-Hill Research have shown that in 1987 it cost, on average, $251.63 for an in-person sales call; the average telemarketing sales contact costs between $10 and $20. Telemarketers can also make more business contacts per day than people in the field. Although Fortune 500 companies are swarming to telemarketing, it's a perfect marketing, sales, or service tool for any size company, from a single-person, home-based business on up, since all it requires is a phone, a computer, and the right software.

Before you run out to buy *TeleMagic* or any other telemarketing package, draft an outline of what you're going to use it for, the features that are needed to support that activity, and the type of vendor or dealer support that you'll require to operate the program.

After you've drafted your list, you'll probably find that most of the features and benefits you want are included in *TeleMagic*. ■

(EDITOR'S NOTE: *For more information on telemarketing techniques, look for Steven F. Edwards's Business 101 department in the October 1990 issue.*)

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Home Office COMPUTING

Can Software Help You Get Rich?

BY LISA KLEINHOLZ

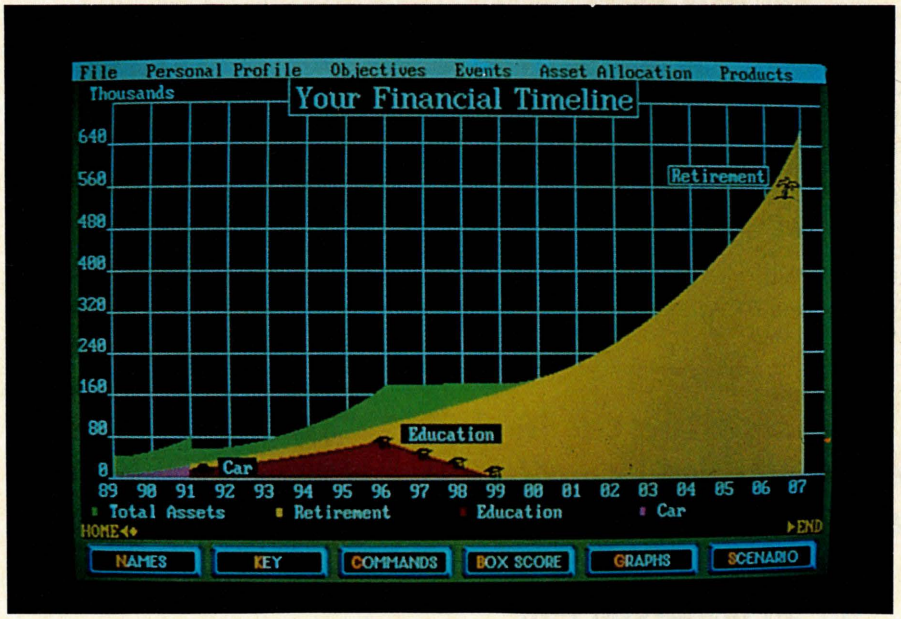
WealthBuilder Acts Like a Savvy Financial Adviser

The appeal of *WealthBuilder* (by *Money* magazine) is based on the enduring American dream of going from rags to riches. The traditional Horatio Alger plot emphasized thrift and hard work. As a financial-management program, *WealthBuilder* also wants you to save every cent you can, but instead of stressing work as the key to success, it advises you to invest your way to the top. And it provides you with many of the tools you need to get started.

Even people without much money to invest should find the financial tutorial extremely helpful. It's organized in layers, feeding you bits of information in small, easily digestible chunks. So many areas are covered that it's hard to sum them up, but the following list offers a good overview of what topics *WealthBuilder* tries to help you with: tax planning and preparation, buying insurance, estate planning, buying a home, home improvements, managing consumer debt, retirement and education planning, investing in the market, allocating assets among diverse types of investments, and choosing and monitoring a broker. *WealthBuilder* also offers explanations of such assets as stocks, treasury bills, long-term bonds, certificates of deposit (CDs), foreign stocks, precious metals, limited partnerships, and real estate investment trusts. Within each of these categories are detailed definitions of terms (like *put* and *call* options) and advice on how to go about buying, selling, and evaluating specific investment products (insurance annuities, for example).

ANALYZING FINANCIAL RISK

After seeing how to balance your assets against your debts and analyzing your spending patterns—both by going through the tutorial and by setting up a budget and balance sheet—you begin to set financial goals, such as retirement or the kids' education. A window pops up for each new goal you devise, and you fill in amounts for how much you think it will cost, when you'll need the money, and so on. Then the program computes how much you must save at what rate of return to meet your goal.



WealthBuilder *graphs your financial needs over time against what you actually have.*

For example, if you hope to buy a house in five years, *WealthBuilder* calculates what price you can afford (2.5 times your gross annual income for a first home), how much you'll have available from your investments and other assets you tag to be sold, and how much money you must save annually (and at what rate of interest) to be able to make a down payment and meet closing costs.

Next you go to a strategy section. Here you set your level of *acceptable risk* and see what an optimal mix of investments might be for you. For example, my husband and I have set aside $20,000 in CDs for retirement. *WealthBuilder* showed that keeping all our money in CDs (cash) was equivalent to a risk level of 1 (very low) and would probably result in an average annual return of 6.46 percent. An optimal strategy at a moderate risk level of 2.6 would be to put 34 percent in cash (money-market funds, CDs, or savings accounts), 34 percent in equities (stocks or stock mutual funds), 22 percent in bonds, and 10 percent in precious metals. The return: 10.19 percent. At the highest risk level, 5, the optimal mix changed to 90 percent equities and 10 percent cash, with a return of 13.93 percent. According to the manual, a complicated model is used for these calculations, keyed to your age and other individual factors.

LISA KLEINHOLZ *reviewed* Money Matters *in last month's Finance department.*

WealthBuilder

Rating: ★ ★ ★

AT A GLANCE: Financial-planning tool shows how to optimize investments to meet specific goals such as college education, retirement, or new house. Includes portfolio manager to track investments, along with balance sheet to show net worth. Excellent database gives lots of information on mutual funds, stocks, bonds. However, updated investment data requires much hard-disk space and costs at least $100 per year; so, except for regular investors, program may not be practical investment over time.

DOCUMENTATION: Very good. Guided tour teaches how to use the program.

ERROR HANDLING: Annoying file handling; problems with graphics, too, even with popular equipment. Still, it's hard to make big mistakes.

EASE OF USE: Extremely easy at the what-key-should-I-push-next level, yet several oversights can lead to confusion or disappointment.

SUPPORT: Only fair. Didn't get impression they have their act together; gave prompt attention only when told I was a reviewer.

VERSION REVIEWED: 1.1

PRICE: $250

SYSTEM REQUIREMENTS: 512K IBM PC, PS/2; hard-disk drive; EGA or VGA optional (required for high-resolution graphics); Microsoft mouse optional (EGA or VGA required); DOS 2.0 or higher; 5.25- and 3.5-inch

PUBLISHER: Reality Technologies, Ltd., 3624 Market St., Philadelphia, PA 19104; (215) 387-6055, (800) 346-2024

DATABASE FOR INVESTORS

Integrated with the strategy section is a database of 400 stocks, 500 bonds, and 450 mutual funds. If you have less than $100,000 to invest, you are advised to invest in mutual funds, which pool small amounts of money from many people to buy large offerings. Professionally managed, some funds specialize in bonds, some in stocks, some in precious metals, while others invest in a preset mix. Although most funds require minimum investments from $1,000 to $2,500, some allow you to invest as little as a few hundred dollars. And because funds spread the risk over a large number of investments, *WealthBuilder* says that they are a great way for small investors to realize high returns with moderate risk—an idea that's easy to agree with.

To help you choose from the vast array of possibilities, the performance of each fund, stock, or bond can be graphed against such indicators as inflation, stock indexes, and cash. That, together with extensive information provided about risk levels, management fees, recent quarterly yields, long-range returns, and other variables, makes the database a wonderful research tool.

Even though the database is packed with information, one flaw is the lack of attention paid to the social side of investing, except for a brief reference to the fact that many precious-metal funds invest in South Africa. Another flaw is that the database quickly becomes outdated. Reality Technologies will sell you a subscription for quarterly updates at $175 or $100 per year (depending on which update program you choose: everything, just stocks and bonds, or just mutual funds). Active investors (buying and selling more than a few times a year) may want to pay to get this kind of information on-line; but people who have less to invest probably won't want to keep spending money on updates just to find out about one or two mutual funds.

TRACKING YOUR BUCKS

With version 1.1, *WealthBuilder* has added a Portfolio Manager, which allows you to track investments. You record purchases, sales, prices, and fees, and the information is automatically integrated with your balance sheet and financial goals. So, if you make a $10,000 profit on the sale of a stock, you'll see that amount incorporated into what you can afford to put down on the vacation home you're saving for.

The Portfolio Manager also exports data on your investments' current value to *Quicken* 3.0. There are clear instructions on how to go about this, including how to set up appropriate asset accounts in *Quicken*. If you are an active investor and use *Quicken*, you'll probably use this feature frequently and profitably.

SOFTWARE LIMITS

After the first few sessions, however, less active investors will probably use *WealthBuilder* only a few times a year. If you are thinking of investing or want to understand more about planning your financial future, this program should serve you well because of its great educational value. But be forewarned that for day-to-day use, this program has some flaws and limitations.

First, *WealthBuilder* takes up at least 5MB on your hard disk. That's a lot for a program you're not going to use every day. And although *WealthBuilder* is extremely easy to use at the what-key-should-I-push-next level, several oversights can lead to confusion or disappointment. For instance, take my problems with the graphs, especially the Reality Timeline, which plots your financial needs over time against what you'll actually have, given your current assets and investment strategy. Sounds useful, right? Well, when I tried to use the Timeline, my screen kept washing over with color, obliterating the graphs.

I called the publisher about the problem. After several phone calls, I got a call back from a technical-support person, who told me that "*WealthBuilder* doesn't like [my] Paradise VGA Plus cards. You'll have to run the program in character mode." However, there are no instructions on how to run the program in character versus graphical mode, along with definitions of these terms. And running in character mode means I lose graphics—not what I expect from software, considering my Paradise video card is a widely used brand.

Another flaw is the software's annoying file handling: When you name a file, the program gives the file your name on-screen, but gives a completely different DOS name, making "housecleaning" and backing up from outside *WealthBuilder* a royal pain.

THE BEST AND THE WORST

At its best, *WealthBuilder* is a treasure trove of useful financial information and advice, accompanied with the usual disclaimers—Reality Technologies and *Money* magazine are not going to reimburse you for money lost following their optimal investment strategies.

At its worst, *WealthBuilder* is a disk-space hog that will be a lot of fun to play with the first couple of months, and then will sit there taking up space.

Then again, at street prices, *WealthBuilder* is no more expensive than a consultation with a human financial adviser. And the advice it gives—save, invest, diversify—certainly seems sound. You may not realize your version of the American dream with *WealthBuilder*, but you might set some realistic goals and discover a few ways to start working toward them. ■

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EDITED BY EDWARD P. STEVENSON

SELLING YOUR USED COMPUTER

Q: I am planning to replace my present computer system and I'd like to sell my old one. What's the best way to do that? How do I set a fair price?

BRUCE HOLDEN
Tulsa, Oklahoma

A: Selling your used computer may be difficult. One of the factors in the equation is that prices for new equipment keep tumbling; what you paid $2,000 for a couple of years ago may now be available, new, for $1,000. That means your two-year-old system without a warranty may be worth little or nothing to most buyers.

If you are intent on selling, a classified ad in a newspaper or a local classified-ad magazine may be your best bet. You can get some guidance in pricing your wares by reading other ads or by consulting second-hand-computer dealers. (Look for dealers in the yellow pages. For the most part, they sell only high-priced brands like IBM and Compaq.) The *Orion Blue Book*, an annual publication of Orion Research Corporation in Durango, CO ([303] 247-8855), lists the current resale value of equipment from hundreds of manufacturers. Since prices fluctuate, this should be used only as a general guide. Exchanges, like the Boston Computer Exchange ([617] 542-4414) or the Consumers Computer Exchange in Houston ([713] 932-6123), also facilitate the sale of equipment. Some buy outright; others simply find a buyer and take a commission.

As alternatives, you might consider handing the computer along to someone else in the office, dedicating it to a special function such as telecommunications, faxing, or voice mail, or donating the equipment to a school, church, or other institution.

HIGH-DENSITY PERFORMANCE FROM DOUBLE-DENSITY DISKS?

Q: I've heard that the only difference between a double-density 3.5-inch disk and a high-density 3.5-inch disk is a second hole punched on the upper left side, and that anyone with the proper punch can turn a double-density into a high-density disk. Is this true?

REV. R.W. MUECKENHEIM
East Northport, New York

A: It is true that punching a hole in the upper left-hand corner of a 3.5-inch double-density disk will fool a 1.44MB floppy-disk drive into thinking it is reading, writing, or formatting a high-density one, but we do not condone this. Here's why.

A high-density disk crams twice as much data—twice as many data tracks—into the same physical area as a double-density disk. When double-density disks are formatted as high-density disks, what usually happens is that many sectors (as many as 15 to 20 percent) are identified as unreliable ("bad") by the format program and permanently placed off limits. Furthermore, the likelihood of unpredictable read-and-write errors increases dramatically. The savings from getting extra mileage out of a double-density disk don't justify the risk of losing data. If you need 1.44MB of storage on a single disk, buy the real thing. ■

HELPFUL HINTS

FORMATTING TIP

I'm writing in reference to the problem sent in by Todd Hoo of Saratoga, California (*Clinic, page 20, May 1990*), about formatting double-density disks in a high-density drive: The advice given is valid but requires that you remember the various switch settings for the basic DOS format command string.

The solution that works for me is to write two short batch files that turn on the switch settings for the desired disk size. In my own system, for example, the A drive is a 1.2MB, 5.25-inch and the B drive is a 1.44MB, 3.5-inch. The two batch files (720.BAT and 360.BAT) are called from the DOS command line input prompt.

720.BAT for the 1.44MB drive:

```
CD\DOS
FORMAT B:/N:9/T:80
CD\
```

360.BAT for the 1.2MB drive:

```
CD\DOS
FORMAT A:/4
CD\
```

or

```
CD\DOS
FORMAT  A:/N:9/T:40
CD\
```

Gone is the irritation of having to remember, look up, or even enter all the switch settings each time.

JIM WENINK
TEL-TECH TRAINING
Ickesburg, Pennsylvania

PC SURVIVAL STRATEGIES

I'm a management and computer consultant, and many of my clients expect an instant answer to *any* problem even remotely related to technology. Although the answers to their questions are in the reference library of my home office, I'm rarely there when the questions come up. Now, however, I have a new weapon in *The PC User's Survival Guide* (1989; $23; M&T Books), written by Jim Aspinwall, Rory Burke, and Mike Todd. The *Survival Guide* is a rare keeper. It contains specific, step-by-step help for when things go wrong and techniques on how to prevent problems. "Our intention is to provide a resource for folks who need a PC 'guru' . . . [For the] user who runs into a PC problem at night . . ." says author Mike Todd.

I can attest to that. Recently, I helped a home-based business owner set up his first system. Using the Disk Drive Systems chapter, my client was able to quickly grasp some difficult concepts. And later, when his hard drive became unusable, he didn't panic—at first. Using the *Survival Guide*, we went back over the formatting steps and redid the offending process. The *Survival Guide* also has information that is devilishly hard to locate elsewhere: phone numbers for vendors; conversion, error, and ASCII codes; users' group contacts; and great technical tips. It is a matchless problem-solving and system-setup and improvement guide that should be in your reference library—or even take its place.

DARREL A. RAYNOR
DATA ANALYSIS RESULTS, INC.
Plano, Texas

$ WE'LL PAY FOR YOUR PROBLEMS $

If you need computer advice or are having system problems that need diagnosis, our technical staff will try to help you out—and we'll pay you $25 if we publish your letter in Clinic. Although we cannot answer each letter individually, this column will deal with frequently asked questions and common problems. We reserve the right to edit letters for clarity and length. Please include your name, address, and phone number with all correspondence. Send your letters to Clinic, HOME-OFFICE COMPUTING, *730 Broadway, New York, NY 10003.*

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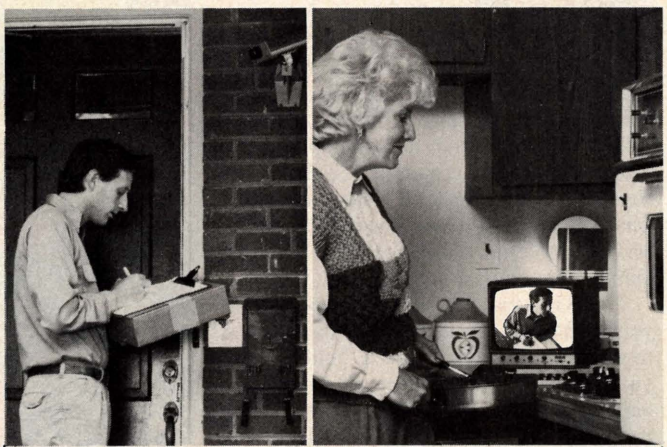

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Save Time and Energy By Dialing Telephone Numbers With Your Modem

BY ALFRED GLOSSBRENNER

I used to work as a writer for Merrill Lynch, where I learned the firm's formula for stockbroker success: Make 25 cold calls every day. That seems like a good goal for anyone trying to build a business over the telephone. And someone trying to sustain an existing business could easily make 25 calls a day. But who wants to punch in all those phone numbers or cradle a handset for hours on end? Surely there must be a better way.

There is—you can select numbers from your computer screen and dial through the modem. Of course, if you're cold calling, you'll need a reliable source of phone numbers, too—preferably numbers that you can pump into your computer electronically so you don't have to key them in by hand.

Next you'll need a telephone headset. You've seen these devices on the heads of people at Mission Control during a space launch or on operators "standing by" to take your call during a commercial for Time-Life Books. Headsets are available from office-supply stores for between $48 and $66.

Most models connect to the phone through a small box (supplied). If you plug your handset into the box, you can switch between handset and headset at will. Be sure to get a headset that is compatible with your phone (electronic or carbon microphone). Some models, like the Plantronics Spirit 4, include a keypad and are designed to be plugged directly into the wall, eliminating the phone entirely.

As we'll see in a moment, there are programs that can locate a phone number anywhere on your screen and dial it through your modem at the touch of a single key.

ALFRED GLOSSBRENNER *is the author of the just-published* Glossbrenner's Hard Disk Handbook *(Osborne/McGraw-Hill), as well as* The Master Guide to FREE Software for IBMs and Compatible Computers *(St. Martin's Press) and many other books.*

Who wants to punch in phone numbers or cradle a handset for hours on end?

The idea is to get a list of numbers recorded on disk as a text file or database file that can be displayed. Once the list is on the screen, the telephone-dialing software takes over and places the call. This avoids the time-consuming, error-prone process of punching in telephone numbers by hand.

GETTING TELEPHONE NUMBERS

Obviously, you don't want just any phone numbers. You want qualified prospects—businesses that you can reasonably expect to be interested in buying whatever it is you have to sell. One of the best places to turn for numbers of this sort is the Online Information Network (OIN) database, from American Business Information.

The OIN database includes addresses and phone numbers for more than 8.3 million U.S. firms (and 1.6 million Canadian businesses) and 4.3 million high-income consumers. The core information is derived from every yellow pages directory in the country. The company makes phone calls to obtain the names of the owners and managers of the firms, sales volume, number of employees, zip code, county, and any franchise, brand, or specialty information available. Each listing also includes one or more of 7,000 Standard Industrial Classification (SIC) codes to help you identify specific types of businesses.

With the phone campaign, OIN eliminates companies that have gone out of busi-

TELEPHONE NUMBERS

American Business Information, Inc., (402) 593-4593; Borland International, (800) 543-7543; Cassady & Greene, Inc., (408) 624-8716; Chang Laboratories, (408) 727-8096; Contact Software International, (214) 418-1866; General Information, Inc., (206) 483-4555; IBM Desktop Software, (203) 783-7300

ILLUSTRATION BY JOSH GOSFIELD

ness, confirms addresses, and incorporates suite and post office box numbers to improve mail delivery, identifies phone number changes, and determines which locations are branches and which are company headquarters.

Thus, with OIN you can quickly search for and download a list of every car dealer in a particular county or zip code, or every law firm or real estate office in a given state, for example.

Several downloading options are available, including an option to have the system send you the information in a form ready to export to your favorite database. You can then use your database program to produce the labels for a direct-mail piece and use dialing software to follow up with a telephone call.

Your first year's subscription is $95, but you get a $100 usage credit. Then, the annual charge is $60. The cost is 13¢ per name, address, and telephone number downloaded and $1 per minute of connect time.

COMPUTER DIALING

To handle dialing chores you'll need a package like *SideKick* or *SideKick Plus* (Borland International; for MS-DOS and Macintosh) or *HotLine Two* (General Information; for MS-DOS) or *The Phone Book Library* (General Information; for Macintosh). Each program is excellent, but *HotLine*'s intense focus on phone management gives it the clear edge in this area. Among other things, the program comes with a current list of some 10,000 major firms on disk, complete with searchable SIC codes.

The important thing is that these are memory-resident programs. Thus you can load your database or word processor and display an address and phone number on the screen. You can then hit a key or key combination to call up *SideKick* or *HotLine* and tell it to zero in on the first phone number it finds. Then, as long as your modem is turned on and connected to the phone lines, you simply hit Enter to dial.

Get a list of numbers, display them on screen, and let telephone-dialing software take over.

When the connection is made, you hit another key to cause *SideKick* or *HotLine* to return you to the underlying program. This way you can use your word processor to take notes on the call or use your database to generate an order. Since you're using a headset, your hands are free to operate the keyboard. When one call has been completed, you merely repeat the process, calling up *SideKick* or *HotLine* and telling it to dial the number.

Rather than using a standard database and a phone-dialing program, you can also use a true sales-tracking program with built-in dialing capability (*see "How to Stay in Touch with Absolutely Everybody" in the July issue and Software Solutions in this issue*). Such programs include *ACT!* (Contact Software International), *Current* (IBM), and *Telemagic* (Remote Software) for MS-DOS computers, and *C.A.T.* (Chang Laboratories) and *QuickDEX* (Cassady & Greene) for Macintosh computers.

With tools like these at your fingertips, it's easy to make phone calls all day long. If all you've got right now is a computer, you will have to invest an additional $400 to $500 in hardware and software, and the phone numbers aren't free. But if your phone manner is good and you have the discipline to make daily calls, the extra business you generate may easily cover the initial expense. ■

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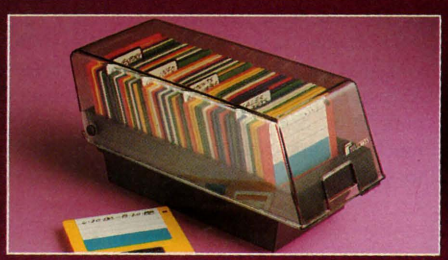
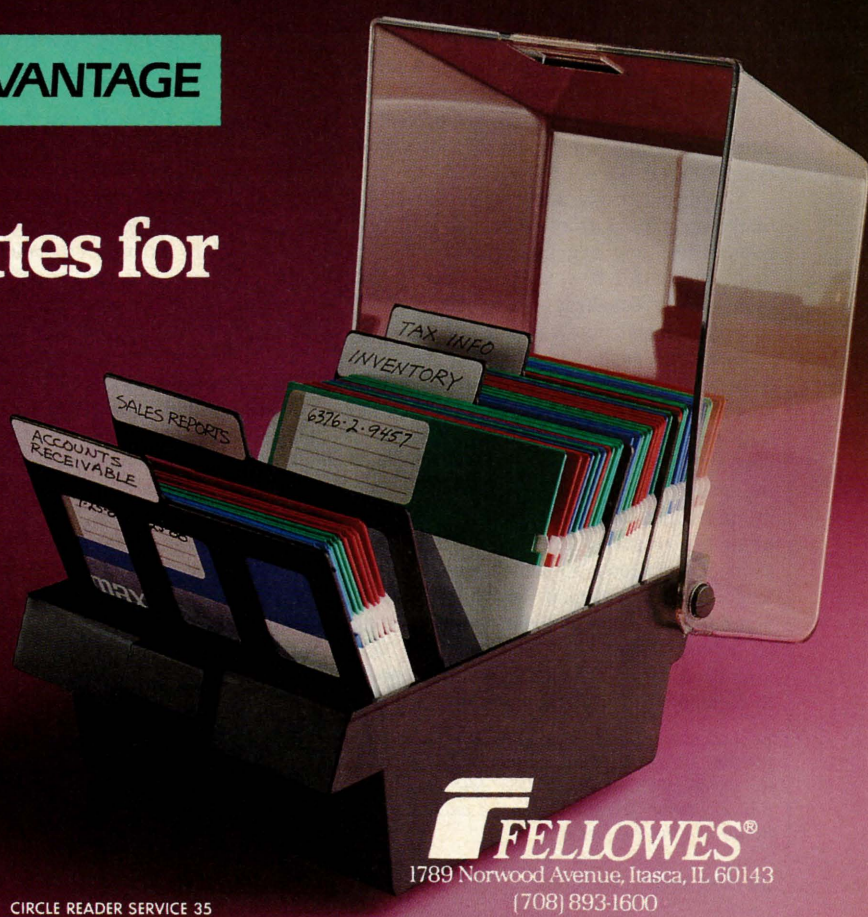
See your nearest dealer for advantages like this throughout the Fellowes line of office organizational products. Or, contact Fellowes.





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CIRCLE READER SERVICE 35

ADVERTISING, PART III

What You Should Know About Direct Mail

BY RONNIE GUNNERSON

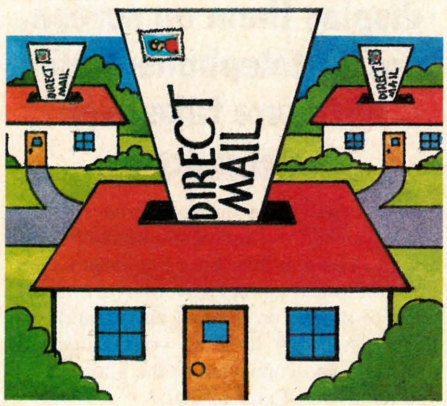
Cost-Effective Steps To Targeting Your Specialized Market

We've all heard that direct mail is one of the most effective sales tools available to small business, but is it right for you? If you're selling floral arrangements to your entire town, probably not. Your customer base is really a mass, albeit regional, market. If, on the other hand, you are pitching housecleaning services to adults who live within a two-mile radius of your home, your customer base is highly specialized—and therefore a prime target for direct mail.

"The more targeted your market is, the more you want to stick to very specialized media like direct mail," says Mary Tchakirides, a direct-mail maven who runs her own home-based consulting business. Tchakirides earlier founded and served as senior vice president and general manager of the Los Angeles office of Rapp & Collins, the direct-marketing subsidiary of advertising agency Doyle, Dane, Bernbach.

Although a strong advocate of direct-mail marketing, Tchakirides warns that it is both complicated and expensive. And you'll be more successful if you know what you're doing. Here Tchakirides gives step-by-step advice on direct marketing.

Weigh the costs and benefits. Decide up front what you can afford to spend per order so you can gauge whether or not direct mail will be cost-effective. The calculation is simple: Figure out how much you are willing to spend per order, estimate the cost of the individual direct-mail piece, then determine the response rate required to break even. If you need a 50 percent response rate, forget your direct-mail campaign. Even if you need just 5 percent, rethink your strategy, advises Tchakirides, with a caveat: "Use your head. If you are mailing a concert notice to members of a church, you might get a 10



percent return. If you are selling high-ticket items like mink coats, you don't need a high response rate. But if you're selling a $5.95 gadget, you do."

Finally, consider your offer itself. If you are selling items that are readily available at retail, selling them through direct mail may be difficult.

Start small. Even if you believe direct mail is appropriate for you, start small, advises Tchakirides. "Your best advertising prospects are your current customers," she says. She also suggests that you mail a flier or postcard to existing customers, offering them an incentive to send friends your way.

"Once you have done a good job getting customers from your referral base, you're ready to go out further," says Tchakirides. "That takes some dollars."

Give something away. But before you dig into your pockets, delve into your imagination to create more incentives. An accountant might offer a free brochure explaining how to organize books for tax time. A financial consultant may give a complimentary consultation, or a public-relations specialist may write the first press release gratis. Whatever the offer is, make it strong. Says Tchakirides: "An offer will get you a much higher response than a four-color print job. Instead of giving the money to your printer, give it to your new customer."

You can of course use your computer to create your own direct-mail piece, even if you have no graphics software. A single-page letter will do as long as it clearly delineates (a) your offer, including the all-important incentive, (b) the benefit your product or service offers the user, and (c) some proof, like testimonials, that you are "a legitimate business person," says Tchakirides.

Make your way through the postal maze. Once you know what you're pitching and to whom, you're ready for the nuts and bolts of direct-mail marketing. The most difficult part of direct mail is dealing with postal requirements.

Start by getting an instruction booklet from your post office, which will also supply you with stickers, rubber bands, and boxes and bags for hauling your mail. The post office will give you forms to complete and will tell you how to fill them out. You will have to buy a permit number, which costs less than $100 per year (above the cost of postage).

Be sure to find out weight and size limitations before you prepare your piece. If you are mailing a letter first class, for instance, make sure it weighs less than one ounce and meets the right height-to-length ratio.

There are big differences between first and third class, by the way. Third class costs about half the price of first class, but you sacrifice service. For one thing, you must allow three weeks for delivery, and that three-week period isn't even guaranteed. Tchakirides says whole bags of third-class mail have been known to disappear. Also, first-class mail is automatically forwarded if the addressee has moved, and if a letter is undeliverable, it's returned to the sender. Third-class mail is not forwarded, and "bad mail" is returned only upon specific request—and with payment of a fee.

Third class is so much less expensive that you may decide to forfeit the guarantees. You can do that without losing the impact of your offer. Some third-class stamps look so much like first-class postage that "you have to study them to see the difference."

ILLUSTRATION BY CLAUDE VAN LINGEN

RONNIE GUNNERSON *is a contributing editor for* HOME-OFFICE COMPUTING. *She wrote "Money-Smart Ways to Advertise on TV and Radio" in the July issue.*

ADVERTISING SERIES TOPICS

PART I: *The How-Tos of Print Advertising*
PART II: *Expanding into TV and Radio*
PART III: *Direct Mail*

Get smart about design and printing. Sending your letter in a typed envelope is another way to heighten receptivity. And remember, design has a lot to do with how your offer is perceived. If it's mailed first class but designed like junk mail, you'll probably get less response than you would from something mailed third class with a high-class design.

A tip regarding design and printing: Get at least three estimates for every piece of the mailing, specifically envelopes and letterhead. People usually go to print brokers, who automatically mark up a job by 20 percent, warns Tchakirides. You can save that money and more by finding a printer who will allow you to bring in your own supplies. You can then save money by purchasing your own letter stock and your own envelopes separately.

Ask right out if the printer will be "jobbing out" your assignment. Some small local shops have only two-color capability, but they accept four-color jobs and contract them out to larger printers—at a higher cost to you. Of course, if your job is small, you may have no choice, since some large printers will work with local printers but not with individuals whose jobs don't meet minimum run requirements.

Find the right lists. The most critical component of your direct-mail campaign is the list you use. To find the one that's right for you, go to the reference section of your library and look for the Standard Rates and Data Services (SRDS) series of books. Of the 12 or so volumes, *Direct Mail Lists* will tell you the lists available along with their rental or purchase prices and the number of names on each.

When shopping for lists, remember that "it's always better to mail to a list of people who have already ordered something through the mail," says Tchakirides.

Use a list broker. Once you know your target audience, go to a list broker. Backward as that strategy sounds, follow Tchakirides's advice and educate yourself before you choose a broker. At the same time, don't think you've learned so much that you don't need one. "A broker has more information than what's in the [SRDS] book," says Tchakirides.

Although brokers mark up lists, you can't get them any cheaper by buying direct. Like travel agencies' commissions, which come from the airlines, brokers' commissions come from the list companies. So a price of $100 per thousand names in SRDS is the amount you will pay, broker or no broker.

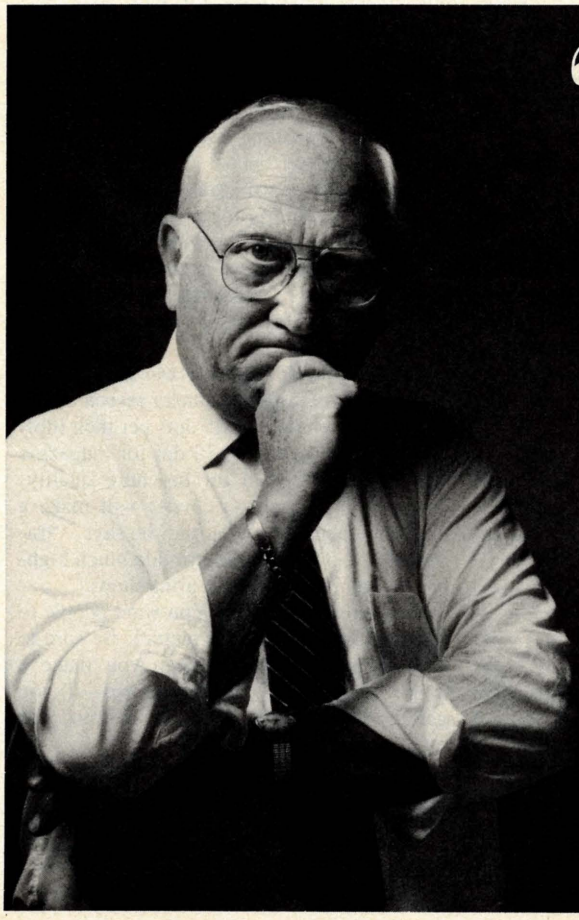
Look for money-savers. You will next have to decide how you want your labels. "Merge/purge" is the option that eliminates duplicate names across different lists if you are ordering more than one list. While it guarantees no crossovers among lists, merge/purge can be prohibitively expensive for a small-business person.

You're better off simply trying to order lists that you think will have a low duplication factor and asking for pressure-sensitive labels that you can peel off and stick on yourself. Or you can pay a "letter shop" to stuff the envelopes and apply the labels. If you use a letter shop, the printer will deliver your materials to that shop, which will in turn deliver the finished mailing piece to the post office for a charge of about $35 to $40 per thousand.

As with printers, be sure to get estimates from at least three letter shops. The extra time it takes can save you enough money in the long run to compensate. One essential timesaving tip is to order your labels in zip-code sequence since the post office requires that mailings be presorted.

Probably the most important point about direct mail is that to do it correctly, you must deal with a lot of details. "Don't get into it unless you are willing to pay attention to details," warns Tchakirides. "A lot can go wrong."

But a lot can go right as well. If you are a detail person and are targeting a specialized audience, you can't spend your advertising dollars in a more effective way. ■



"A Fax machine that connects to my PC? I don't get it."

Some people don't yet understand the advantages of having a stand-alone fax machine that connects directly to your computer. We could explain the advantages of being able to fax directly from within any application. And we could discuss the merits of using the machine as a scanner for page layout and OCR applications. We could even talk about the ability to use it as a 200 dpi printer. But to be honest, the easiest way to understand it is to see it. So, if you call 1-800-735-4797 we'll send you a demo that shows you a little more about what our Tefax and your PC can do for you and your business.

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CIRCLE READER SERVICE 46

Make the Most of Your Photo Opportunities

BY PAUL & SARAH EDWARDS

Publicity and promotion are two of the most cost-effective marketing methods a home business can use. And you can strengthen the impact of any of your publicity or promotion pieces if they include a flattering photograph.

It's true. People love pictures. Brochures, newsletters, newspaper articles—anything written—attract more attention when they include pictures. Think of your own response when you read an article. Don't you enjoy seeing a picture of the writer or people in the story? But as business people, how many of us have a ready supply of professionally printed black-and-white glossies on hand?

Often when the best publicity opportunities arise there isn't enough lead time to have a professional photograph taken. Therefore we recommend that every service-oriented home-business owner always have photographs on hand.

Los Angeles advertising photographer Chuck Behrman gave us 15 reasons to keep a photo on hand: (1) to accompany an article you've written; (2) to accompany articles written about you; (3) to include in brochures and other promotional pieces; (4) to use as part of your display advertising; (5) to accompany your listing in professional and trade association membership directories; (6) to use on cards, letterhead, or postcards; (7) to accompany announcements about you or your business in club and organizational newsletters; (8) to use as part of direct-mail pieces about your product or service; (9) to include on invitations to open houses or promotional events you hold; (10) to use as part of your media kit or news release; (11) to use on a book cover or jacket; (12) to mount on an easel to promote your speeches, workshops, or booths at trade shows or conferences; (13) to use in a portfolio of your work, or to show you in action working with clients; (14) to include in a scrapbook of your company's history; (15) to include in a seminar program guide with the description of workshops or speeches you give.

PAUL & SARAH EDWARDS *are the authors of* Working from Home *(Jeremy P. Tarcher), operators of the Working from Home Forum on CompuServe, and cohosts of the "Home Office Show," on Business Radio Network every Sunday night.*

A picture is worth *more* than a thousand words– it may be worth thousands of dollars.

THE PHOTO SHOOT

At one time or another our pictures have filled every one of these needs. Over the course of a year, we use our photo about 50 times—almost once a week! Here are a few tips for making the most of your photo opportunities:

1. Have your photographs professionally done. It costs more, but it's worth it. The muddy, fuzzy pictures in directories and newsletters are often from snapshots someone submitted in lieu of quality pictures.

2. Have two or three different pictures taken. Your picture should put you and your business in the best possible light. Sometimes a casual shot is called for. Other times you'll need one in more formal business attire. Have pictures taken in a variety of appropriate clothing styles. Unless you want to reshoot photos soon, avoid trendy looks that will soon be dated. Good photographers provide proof sheets with a variety of great pictures for you to choose from.

3. Order a good supply of 8½-by-11-inch or 5-by-7-inch black-and-white glossies—25 or more. Purchasing in quantity is cheaper and saves you the trouble of reordering.

4. Take some color photos. Black-and-white is preferred for most purposes, but magazines and even newspapers sometimes request color photos. So it's a good idea to have a photographer shoot a roll of color film, since you're already paying for a sitting.

5. Select a photographer with an excellent track record. Get referrals from satisfied colleagues in your field. Always review the photographer's portfolio and decide whether he or she produces the type of look you want. Since you can expect to invest hundreds of dollars in your pictures, you won't want to have them done over again.

6. Have your hair and makeup done by a professional. Some photographers style hair and apply makeup themselves or have professional help on hand. Alternatively, you can hire your own stylist. It's worth the investment. That goes for both men and women. Great pictures may look as though they were snapped in an impromptu moment, but they weren't. In the best photos, every detail of hair, clothing and makeup, lighting, and shading has been attended to before the shutter opens.

7. Expect to spend several hours with your photographer. Sitting for a professional photograph is like working with your accountant at tax time: It always takes longer than you expect. Don't expect to be in and out in an hour. Set aside a morning or an afternoon.

8. When printing your photo for publicity materials always have a quality screen made. Behrman recommends 65 dots per inch (dpi) for newsprint quality, 135 dpi for magazine quality, and 150 dpi for brochure quality. The printing press you choose will make a big difference, too. As a rule, he says, "traditional print houses can provide much higher resolution than instant print shops."

9. Keep it up-to-date. You want people to recognize you from your picture. Be sure to have a new one taken when you make a major change in your appearance—if you get a dramatically different haircut, for example.

Once you have photographs on hand, you can respond to publicity opportunities more readily and create more opportunities just so you can use them. ■

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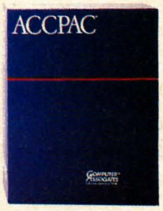

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CIRCLE READER SERVICE 33

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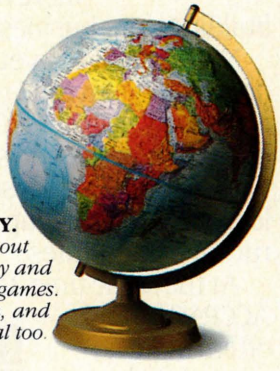

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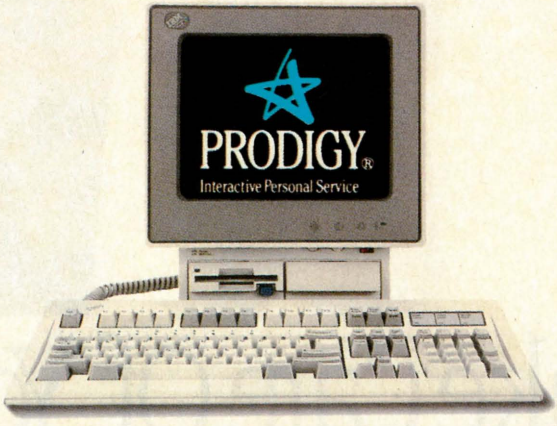

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CIRCLE READER SERVICE 53

Home Office COMPUTING

GREAT FRANCHISE OPPORTUNITIES: 30 Businesses You Can Run From Home

How to Shop For and Buy A Ready-to-Run Business

Plus: 30 Franchises in Fast-Growing Fields

BY LYNIE ARDEN

"My original idea was to start my own business," says Gary Hughes, who owns a General Business Services franchise in Frederick, Maryland. "I started looking around and came across statistics about the success rate of franchises. I saw that a franchise would increase my odds of survival. I get to set my own rules and office hours and hire my own employees. If I get stuck, I get on the phone to corporate headquarters, not just with technical questions, but for ideas on how to develop the business."

For all the reasons Hughes cites—independence, security, a better chance of success, and support—franchising is playing an important role in today's small-business explosion. More than 35,000 people bought franchise operations in 1989, bringing the total number of franchisees to more than 393,000. Franchising sales are growing at a rate of 10.8 percent a year, much faster than the economy as a whole. This growth trend is expected to continue throughout the 1990s, as the powerful service sector dominates our economy. In fact, the Department of Commerce, which says that less than 5 percent of franchised outlets fail or are discontinued each year, predicts that franchises will be the leading type of start-up in the 1990s.

Franchising is attractive to both current and prospective business owners. A franchisor with a successful business formula essentially sells a clone of that business to a franchisee for a license fee, and then collects royalties on revenues. Franchising a business is a way to expand operations.

The franchisee gets a business plan, financial-planning and marketing strategies, a trademark, advertising help, training, ongoing technical and business support, and often a turnkey computer system configured to help run the business. The franchisee has the satisfaction of running his or her own business but has more security and support than he or she would have starting a business from scratch.

A franchisor, however, cannot guarantee or project a franchisee's potential profit, so a potential buyer shouldn't assume that his or her initial investment will produce a guaranteed return. The only way to judge a franchise's profit potential is to talk with people operating one.

LYNIE ARDEN *is author of* Franchises You Can Run from Home *($14.95, John Wiley & Sons). She also wrote "The Hottest Franchises for the Home-Based,"* HOME-OFFICE COMPUTING*'s cover story in June 1989.*

HOME-BASED SERVICE FRANCHISES

Many service-based franchises can be run from home, although they are rarely sold as home-based businesses. The advantages to the franchisee, as for any home-based business owner, are lower start-up costs and overhead. In fact, many of today's most successful and fastest-growing franchises were created to serve other home and small businesses (*see chart, "Growth in Service-Related Franchises"*).

Since franchise fees and start-up costs for service businesses can be quite low—fees for franchises listed in this story range from zero to just over $40,000—you can buy a franchise and run it as a part-time business while holding down your regular job. If and when the business takes off, you can quit your job and run the business full-time. Minimal capital outlay and training requirements generally result in quicker profits than starting an independent business. A home-based franchise generally produces profits within six months; an independent business often takes one to three years.

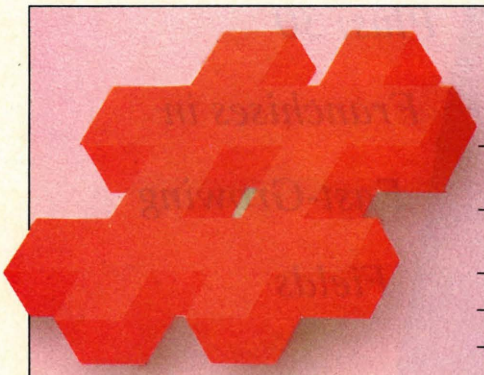
By far the biggest change affecting the franchise industry has been the increase in two-income families, many of which are willing to pay for personal services. For that reason, domestic-help services are growing rapidly. Franchises in the home-cleaning industry alone reported earnings in excess of $120 million in 1988, an increase of 40 percent over 1987.

With the growing number of small businesses, many of which need outside clerical and consulting support, the need for business services has also mushroomed. Business-to-business services run the gamut, from teaching new entrepreneurs how to start and run a business to accounting, mail processing, advertising, telephone answering and secretarial services, employee recruiting, and management training.

COMPUTERS IN FRANCHISING

Any business can benefit from the use of a computer; many franchises require it. Thus, a person with computer skills has a leg up in starting a franchise over someone who has never touched a computer. Some franchises supply a computer system as well as specialized software and training. In other cases, the franchisee must provide the equipment, but the franchisor provides technical help with the software via toll-free telephone numbers. Find out what's included, what's required of you, and what kind of support you can expect.

"When I bought my franchise four years ago, I had never touched a computer," says Bev Mumm, who runs a Merry Maids franchise. "Now I honestly don't think I could operate this business without it." Fortunately, Merry Maids has reassured her that she will never have to. "One day last year, I discovered to my horror that the office had been robbed. Everything was gone, including the computer. It was devastating. Naturally, I called the corporate office in a frenzy. They told me to express my backups to them and relax. Two days later, a new computer was on my desk, with the data from the backups already on the hard-disk drive. I was able to run payroll by noon. Thanks to the



Growth in Service-Related Franchises, 1975–1990

Many service-related franchises are or can be home-based.

CATEGORY	1975	1980	1985	1990*
Number of service-related franchises				
Business aids and services	14,489	16,354	26,630	35,398
Construction, home-improvement, maintenance, and cleaning services	10,821	14,308	17,484	28,270
Educational products and services	1,304	3,243	8,170	13,265
Miscellaneous	2,707	3,616	5,470	8,402
TOTAL	29,321	37,521	57,754	85,335
Sales by service-related franchises (in millions of dollars)				
Business aids and services	$522	$1,235	$3,699	$5,066
Construction, home-improvement, maintenance, and cleaning services	639	1,475	4,067	6,751
Educational products and services	173	339	767	2,322
Miscellaneous	414	447	942	2,178
TOTAL	1,748	3,496	9,475	16,317*

**Projected*

Sources: Department of Commerce and Laventhol & Horwath
Figures reprinted from the Wall Street Journal

exceptional support from the company, my business never missed a beat!''

EVALUATING A FRANCHISE

Despite the potential advantages of owning a franchise, you should proceed with caution. You wouldn't buy a home without close inspection, professional help, and a lot of thought. Take the same care when considering a franchise.

1. Assess your experience and financial situation. While it's true that franchising offers a significant increase in your chances for success, there are no guarantees. You should have a genuine interest in the field you are pursuing, be willing to work hard and follow procedures, and, as Gary Hughes puts it, ''be willing to eat beans six days a week for a while.''

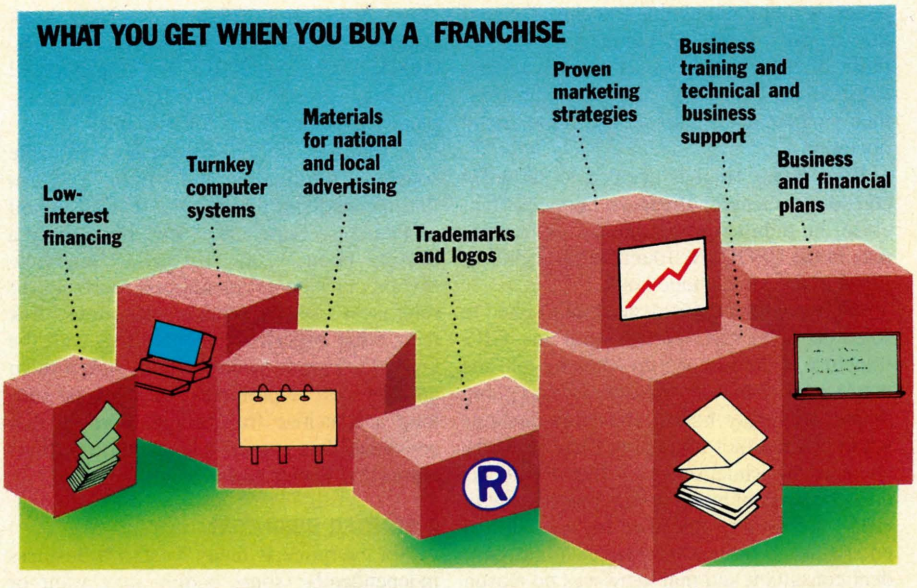
Ideally, you'll have some background in the industry you're considering, even if the franchisor doesn't require any experience. ''There are some businesses that are just interested in selling franchises, regardless of whether the buyer is qualified,'' warns Jack Scherer, president of the Small Business Media Network franchise (*see ''Ready-to-Run Businesses for Sale'' for details on franchises*). ''Here, we even test sales ability when it's a borderline case. A franchisee needs to like the business, and a track record is some indication of that. Even with a good training program, there are just some things we can't teach a person, especially salesmanship.''

The U.S. Department of Commerce predicts that franchises will be the leading business start-up in the 1990s.

Make sure you are financially prepared to operate the franchise until it turns a profit. A good franchisor won't allow you to go into business unless you have enough operating capital and savings to cover living expenses until you begin generating a profit. And although many franchises offer financing for part or all of the franchise fee, it's common for franchises to use the ability to buy outright as a litmus test. ''The type of aggressive, success-motivated person we're looking for will have the relatively small investment needed to buy a franchise such as ours,'' says John Barrett, franchise director of Inform. ''It's kind of a self-proving test of a person's business potential.''

2. Research the industry. Once you've chosen a field, make sure there's a market for the service you'll be offering. Read trade publications to learn where the industry is going. Talk to trade and professional-association officials about the market.

Use your computer to collect general market data through CompuServe, Prodigy, Dow Jones, and other on-line information services. More refined details can be found in the Donnelly Demographics database, available through the Dialog service.



Industries to watch in the coming decade include those that cater to working couples, serve small businesses, and provide information. Maid services lead the first category, followed by home-improvement services, miscellaneous personal services, and children's products.

Tax preparation and financial management serve both individuals and businesses. Other business services on the rise include bookkeeping and accounting, management training, advertising and marketing, personalized secretarial, and computer consulting. Since the introduction of desktop publishing, franchise operators have also competed successfully in the publishing industry.

3. Research the company. Investigate your future business partner. After all, you're going to be financially entwined for a long time. Start by asking for the ''Uniform Franchise Offering Circular'' (UFOC). This weighty prospectus, which usually runs about 50 pages, lists important details about the company's financial health, its history, information about the chief officers, and much more. If you are still interested, arrange to visit its corporate headquarters.

ProForma, for example, a franchise that sells office and computer products to small businesses, requires a one-day visit to corporate headquarters before any decisions are made. John Campbell, director of franchise development, thinks the meeting is crucial. ''It's important that potential franchisees know who we are. We are not the glossy brochures and we are not the fine print on the UFOC. We are a young and energetic crowd, with a flexible management style designed for growth. Potential franchisees need to feel comfortable with that. When we sit down here, we can see if the candidate wants to get out from under the corporate reins and enjoy autonomy yet work with us. We both need to know that we are going to make a good partnership.''

Take the UFOC to your meeting and prepare questions. Ask about training, the future plans of the company, and how your relationship will work in the years ahead. Are you certain you know what you're getting for your money? Not every franchise is completely ready to run. You may have to pay extra for supplies, a computer system, promotional materials, even training. Ask yourself whether you're buying what you need or what the company wants to sell you.

4. Study your territory. In many cases, buying a franchise means buying a territory with a certain demographic population or certain number of qualified buying prospects. A good franchisor will help you determine if the demographics of your region indicate market potential. For instance, if you want to go into the housecleaning industry, you need to know how many two-career households there are in your territory. You also need to determine the average household income and what kind of competition you can expect. The franchisor often conducts this kind of market research before it will sell you a franchise.

Is your franchise territory exclusive? Unless specified, you should assume that it is not. Find out if the company has the right to open its own operations in your territory, and be aware of any rules regarding resale.

5. Talk to franchisees. Don't take a franchisor's answers as the last word. The truth, especially on the key matter of profitability, will come from franchisees.

Franchisees must be listed (along with addresses and phone numbers) in the UFOC. Franchise consultant Robert Kushell considers this list the most important function of the UFOC. ''When you are visiting the franchisor, you are at a disadvantage because you are dealing with experienced salespeople. Your advantage is being able to call franchisees. Ask them about the drawbacks and advantages. Ask: 'If you had it to do over

again, would you buy this franchise?' See if the answers from the company jibe with those of the franchisees. If the advantages substantially outweigh the disadvantages, then suggest a visit to see the franchise in operation.''

When Gary Hughes decided to seriously consider a General Business Services franchise, he didn't wait for the list of franchisees in the UFOC. He found two franchisees listed in the local phone book.

''It was a total coincidence that I talked to someone who had recently quit his GBS franchise. I didn't hang up when he told me that; I asked him why. Whether he was going to be completely honest about his dealings with GBS was not something I had to worry about in that situation. As it turned out, his decision was not based on any problems with GBS. He simply felt that he was skilled enough to go out on his own as an independent consultant and that there was no reason to continue paying the royalties. Now, after leaving, he did have some misgivings, because certain things were harder for him to do alone than he had forecast. That was a very valuable phone call for me. I felt completely comfortable teaming up with GBS,'' Hughes said.

6. Consult franchise professionals. For more intricate questions, talk to professionals. A franchise lawyer can help you understand the UFOC, and you'll certainly want to consult one before signing any contracts. You can find a lawyer who specializes in franchising through the International Franchise Association (IFA, 1350 New York Avenue NW, Suite 900, Washington, DC 20005; [202] 628-8000). Consultant Kushell also suggests contacting both franchise companies and franchisees for referrals.

A franchise consultant can be a valuable source of information and advice. You can find a consultant through the IFA's Council of Franchise Suppliers. ''But that is only a starting point,'' says Kushell. ''Interview several consultants. In addition to asking for references, ask hypothetical questions. Ask them what experience they've had with the kind of person in your position. Ask if there are any special problems for someone running a franchise from home. Perhaps that consultant has special insight into the franchises that you're considering.''

A STARTER BUSINESS?

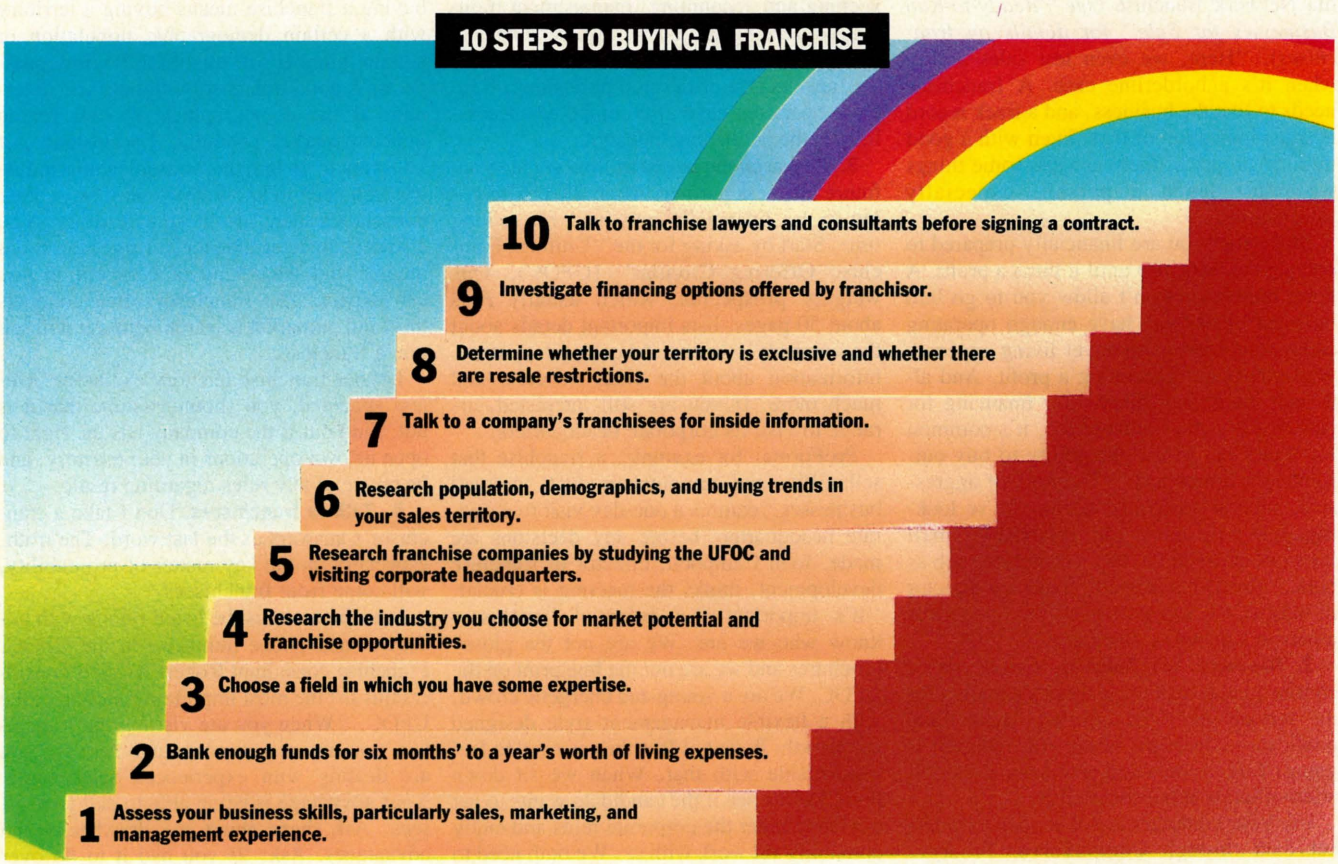
Not everyone is ready to start a business independently; some people may want or need a safety net. A franchise can show them the ropes, give them ongoing support, and offer a proven method of doing business. A franchise can be viewed as a starter business, one that will grow properly if you follow the plan and perhaps teach you some secrets of running a business.

Perhaps the ideal franchise candidate is a person who has been successful in a corporate career and feels the urge to run his or her own business. Corporate experience is, of course, important. However, the corporate cocoon offers no practical experience in running a small business. A franchise can fill that gap. A good franchise offers a ready-made business plan, complete with everything you need to succeed.

Owning a business requires that you take a financial risk, work hard, and sacrifice both income and personal time with family and friends while the business is getting off the ground. Although home-based franchises do require hard work and financial risks, the road to success is a lot less bumpy. But franchising is a trade-off. Franchises offer security, training, and marketing power—but you won't be entirely independent. As a franchise owner, you will be required to follow the company's procedures, whether you agree with them or not. If you prefer to do things your own way, a franchise may not be the right investment for you.

A possible solution might be to invest in a franchise, learn as much as you can for a few years, then sell the business and go out on your own. If that's your plan, be sure to check the UFOC for rules regarding reselling a particular franchise. Some franchises insist on the right to approve of the new purchaser and others charge a fee for retraining. There may also be a noncompete clause that prohibits you from opening a similar business in the same territory in which you ran the franchise.

As a home-based franchise owner, you'll be working alone—even if you're not entirely on your own. You must have the self-discipline to manage yourself and your time. Even though you'll have a security net, the business won't run itself. To succeed, you'll have to take the reins and act like a boss. ■



Ready-to-Run Businesses for Sale

30 Franchises in Growing Service Fields: Business Services, Publishing, Personal Services, and Housecleaning

This guide to franchises covers business services, publishing, personal services, and home-cleaning firms. These businesses are among the fastest-growing franchise operations. Since none require storefronts or commercial office space, they can be run from home. (If you add employees, or wish to move closer to business activity in your area you may, however, want to open a regular office or storefront.)

The following listing gives general information on the firms. Each franchise is described in brief; addresses and phone numbers are included so you can contact the franchisors for more detailed information. Computer-dependent franchises are marked with an asterisk.

At a glance you should be able to discern whether you are interested in and qualified to own a particular franchise. Keep in mind that even those franchises that say they have no particular ownership requirements prefer people with a sales, marketing, or general business background.

The initial franchise fee, which ranges here from nothing to $40,000, buys you the right to operate under the franchisor's corporate umbrella. Minimum start-up costs cover everything you will need to buy to start operating the business—besides the franchise fee. This includes such items as office equipment, supplies, inventory, training, printed materials, an opening advertising budget, telephone installation, initial payroll, car leasing, living expenses, and so on. Some franchises offer financing and others help obtain it.

Most franchises charge an annual royalty, usually based on gross monthly receipts. This covers ongoing support from the company and provides the parent company with its profits. When a franchise supplies national advertising and other promotional help, it charges a separate advertising royalty, which rarely exceeds 2 percent of gross monthly sales.

Although a lot of offers appear great at first glance, take a second look at some of the following areas:

- **Number of franchisees:** A company with hundreds of franchisees could have a

fantastic offer that's too good to pass up. On the other hand, it could be that the company makes its money from selling the franchises rather than selling the product or service it's based on. Beware of franchisors that show little concern for your background beyond your ability to pay the franchise fee.

- **Experience required:** Since the foundation of a good franchise opportunity is the training offered, buying a franchise is one of the better ways to make a successful career change. However, your chances of success are higher when you work in an industry that you already understand. If you are going into a new field, make sure the franchise has complete training and strong ongoing support.
- **Age of company:** There is no substitute for experience. That is, after all, what you are buying. However, a new franchise could mean a ground-floor opportunity. A number of new franchises are taking advantage of the rapid changes in the country's economy and demographic makeup, and they could be good businesses to latch onto. You might even find a bargain price. When Tom and Terrie Doyle bought the first HouseMaster home-inspection franchise in 1979, they paid $5,000. Their decision to buy was based on the verifiable 14-year-old track record that HouseMaster executives had in the home-inspection industry. Today, a HouseMaster franchise sells for up to $35,000.

BUSINESS-TO-BUSINESS SERVICES

Advantage Payroll Services*
800 Center St., Auburn, ME 04210; (207) 783-2068; (800) 323-9648
Description: Complete payroll and payroll tax-reporting services for small businesses
Experience Required: Sales experience
Year Business Began: 1967
Year Franchising Began: 1983
Number of Franchises: 23
Minimum Start-Up Costs: $5,000
Franchise Fee: $10,000
What Investment Buys: Territory with a minimum of 5,000 businesses; software to connect with company for cooperative effort
Royalty: 0
Advertising Royalty: 0
Financing Available: Yes, up to $5,000 of fee at 10 percent interest over 4 years

AFTE Business Analyst*
13831 Northwest Freeway, #335, Houston, TX 77040; (713) 462-7855; (800) 683-2383
Description: Standardized bookkeeping and tax services to small businesses; requires an IBM-compatible computer system and customized software
Experience Required: None
Year Business Began: 1978
Year Franchising Began: 1986
Number of Franchises: 13
Minimum Start-Up Costs: $500 for initial supplies plus $990 for the customized software package
Franchise Fee: $4,000
What Investment Buys: Two weeks' marketing training at headquarters
Royalty: 7% of gross receipts
Advertising Royalty: 0
Financing Available: Yes

Air Brook Limousine
P.O. Box 123, Rochelle Park, NJ 07662; (201) 843-6100
Description: Limousine service to transport business owners and managers between office and airport
Experience Required: None
Year Business Began: 1969
Year Franchising Began: 1971
Number of Franchises: 125
Minimum Start-Up Costs: $2,000 (refundable deposit)
Franchise Fee: $7,500–$12,500
What Investment Buys: 10-year franchise license
Royalty: 35%–40%
Advertising Royalty: 0
Financing Available: Yes, at no interest

American Advertising Distributors, Inc.
234 South Extension, P.O. Box AAD16964, Mesa, AZ 85211; (602) 964-9393
Description: Cooperative direct-mail advertising for small businesses
Experience Required: Sales or marketing experience helpful but not necessary
Year Business Began: 1976
Year Franchising Began: 1977
Number of Franchises: 111
Minimum Start-Up Costs: $10,000
Franchise Fee: $23,500–$41,500 (depending on territory)
What Investment Buys: Four-week training program, ongoing support, regional meetings, start-up materials (letterhead, business cards), ad tracking
Royalty: Varies
Advertising Royalty: 0
Financing Available: No

American Business Associates
475 Park Ave. S., 16th Floor, New York, NY 10016; (212) 689-2834
Description: A formalized networking organization intended to generate sales leads and marketing information for business owners
Experience Required: None, but business experience preferred
Year Business Began: 1983
Year Franchising Began: 1986
Number of Franchises: 16
Minimum Start-Up Costs: $10,000
Franchise Fee: $25,000
What Investment Buys: Two-week training—one week at company headquarters, one week in field; business forms; newsletter
Royalty: 10%
Advertising Royalty: 2%
Financing Available: $10,000 down, $15,000 financed over 18 months, payable at 6-month intervals at no interest

BINEX-Automated Business Systems, Inc.*
4441 Auburn Blvd., Suite E, Sacramento, CA 95841; (916) 483-8080
Description: Financial-management consulting, including a broad range of computerized services (financial statements, payroll, taxes, accounting, accounts receivable) for small businesses.
Experience Required: Ability to use computers and some knowledge of business management
Year Business Began: 1965
Year Franchising Began: 1968
Number of Franchises: 65
Minimum Start-Up Costs: $8,500
Franchise Fee: None (License renewal is $1,000 per year after five years.)
What Investment Buys: License fee good for five years, training, advertising and promotion, software and software training
Royalty: 0
Advertising Royalty: 0
Financing Available: No

Compu-Fresh (formerly Compu-Clean)
2512 Caledonia Ave., North Vancouver, B.C., Canada V7G 1T9; (604) 929-7187
Description: Computer-system and telephone-cleaning service for businesses
Experience Required: None, but you must be a good organizer
Year Business Began: 1988
Year Franchising Began: 1989
Number of Franchises: 2, in Canada
Minimum Start-Up Costs: $3,000 for working capital plus another $2,000 for training fee
Franchise Fee: $17,500 (Franchise fee is for Canada only; in the United States Compu-Fresh sells "distributorships" at negotiable fees.)
What Investment Buys: Two sets of cleaning equipment; all cleaning fluids and materials for one year; advertising and marketing plan; newlsetter; camera-ready advertising materials
Royalty: Annual registration fee of $4,000–$6,000
Advertising Royalty: 0
Financing Available: No

Correct Credit Company*
721 Auth Ave., Ocean, NJ 07712 (201) 517-0077
Description: Credit-restoration services for personal or business credit. Designed as an add-on business for those with established businesses, such as real estate, tax-preparation, or bookkeeping services
Experience Required: None
Year Business Began: 1983
Year Franchising Began: 1984
Number of Franchises: 9
Minimum Start-Up Costs: $8,000
Franchise Fee: $20,000
What Investment Buys: Complete setup and training
Royalty: $50 per client contract
Advertising Royalty: $350 per month
Financing Available: Yes

General Business Services
20271 Goldenrod La., Germantown, MD 20874; (301) 428-1040
Description: Full-service financial planning (including tax planning) and financial management for small businesses
Experience Required: None
Year Business Began: 1962
Year Franchising Began: 1962
Number of Franchises: 500
Minimum Start-Up Costs: $5,000
Franchise Fee: $15,000 or $25,000
What Investment Buys: Manuals, ongoing support, initial inventory, and field-support training
Royalty: 7%
Advertising Royalty: None
Financing Available: No

Inform
233 East 86th St., Suite 21B, New York, NY 10028; (212) 831-7337; (800) 223-4560
Description: Creates and sells business forms and specialized printing
Experience Required: None
Year Business Began: 1985
Year Franchising Began: 1990
Number of Franchises: 0
Minimum Start-Up Costs: $12,000 for operating and living expenses
Franchise Fee: $26,000
What Investment Buys: Training, Acer computer, printer, modem, fax, Microsoft *Word* and other software, and exclusive territory
Royalty: 7%
Advertising Royalty: 1%
Financing Available: Yes

Money Mailer*
15472 Chemical La., Huntington Beach, CA 92649; (714) 898-9111; (800) MAILER-1
Description: Cooperative direct-mail advertising for small businesses
Experience Required: None, but sales experience preferred
Year Business Began: 1979
Year Franchising Began: 1980
Number of Franchises: 263
Minimum Start-Up Costs: $10,000 for living and operating expenses plus cost of Macintosh computer and customized software
Franchise Fee: $17,000 and up (depending on territory)
What Investment Buys: Training and start-up materials (first mailing is free)
Royalty: 10%
Advertising Royalty: 0
Financing Available: Money Mailer helps find outside financing

Namco Systems, Inc.
7 Strathmore Rd., Natick, MA 01760; (508) 655-0510
Description: Target advertising for local small businesses through the sale of exclusive space on plastic phonebook covers called Tel-A-Covers
Experience Required: None
Year Business Began: 1953
Year Franchising Began: 1982
Number of Franchises: 45
Minimum Start-Up Costs: $5,156
Franchise Fee: $28,500
What Investment Buys: A defined geographic area of rated households with effective buying income of $10,000 or more; four days of classroom training, two weeks of field training, ongoing telephone support, weekly newsletter
Royalty: 0
Advertising Royalty: 0
Financing Available: No

The Office Answer*
8445 Keystone Crossing, #165, Indianapolis, IN 46240; (317) 254-9040; (800) 678-2336
Description: Personalized telephone-answering service
Experience Required: None
Year Business Began: 1988
Year Franchising Began: 1988
Number of Franchises: 8
Minimum Start-Up Costs: $5,000
Franchise Fee: $8,500
What Investment Buys: Access to phone-answering software, training at headquarters and in field, manuals, operational support
Royalty: 5%
Advertising Royalty: 0
Financing Available: Equipment can be leased, but franchise fee must be paid in full up front

ProForma, Inc.
4705 Van Epps Rd., Cleveland, OH 44131; (216) 741-0400
Description: Sales of business products, including forms, commercial printing, and computer and office supplies
Experience Required: Marketing or executive management
Year Business Began: 1978
Year Franchising Began: 1985
Number of Franchises: 93
Minimum Start-Up Costs: $5,000 (for living expenses)
Franchise Fee: $39,500
What Investment Buys: Marketing systems, license agreement, ongoing support, trademarks, vendor relations, and lines of credit
Royalty: 8%
Advertising Royalty: 1%
Financing Available: No

Prove
4806 Shelly Dr., Wilmington, NC 28405; (919) 392-2550
Description: Provides in-depth consumer reports for businesses on areas such as customer service, loss prevention, security, and human resources
Experience Required: None.
Year Business Began: 1977
Year Franchising Began: 1987
Number of Franchises: 34
Minimum Start-Up Costs: $3,000 and up (for setup and training)
Franchise Fee: $14,500 and up (depending on territory)
What Investment Buys: Use of trademark and logo, access to network through which franchisee can sell and service national accounts
Royalty: 8%
Advertising Royalty: 0
Financing Available: Yes

The Taylor Review
4806 Shelly Dr., Wilmington, NC 28405; (919) 392-2550
Description: Preemployment screening and credit check
Experience Required: Background in human-resources management considered a plus but is not required
Year Business Began: 1974
Year Franchising Began: 1989
Number of Franchises: 5
Minimum Start-Up Costs: $5,000 (for training, promotional materials, and special forms)
Franchise Fee: $7,500
What Investment Buys: Access to network, support, and use of logo and trademark
Royalty: 8%
Advertising Royalty: 0
Financing Available: No

TriMark, Inc.
184 Quigley Blvd., P.O. Box 10530, Wilmington, DE 19850-0530; (302) 322-2143; (800) TRI-MARK
Description: Direct-mail coupon advertising for the local small businesses
Experience Required: Sales background preferred
Year Business Began: 1969
Year Franchising Began: 1978
Number of Franchises: 63
Minimum Start-Up Costs: $5,000
Franchise Fee: $5,000 and up (depending on territory)
What Investment Buys: Two-week training (one week at corporate headquarters, one week in field), ongoing support, first six months of supplies (presentation packet, stationery, contract)
Royalty: 0
Advertising Royalty: 0
Financing Available: No

E.K. Williams & Co.*
8774 Yates Dr., Suite 210, Westminster, CO 80030; (303) 427-4989; (800) 255-2359, x107
Description: Offers a variety of business-management services, including business consulting, accounting, small-business management, record-keeping systems, customized software, and computer consulting
Experience Required: None, but accounting background is preferred
Year Business Began: 1935
Year Franchising Began: 1947
Number of Franchises: 308
Minimum Start-Up Costs: $15,000
Franchise Fee: $25,000
What Investment Buys: Geographical territory with specified boundaries, one-to-two week training at corporate headquarters, benefits of company's advertising, discounts on computer and paper supplies and office products; account-processing software
Royalty: 5%
Advertising Royalty: 0%
Financing Available: No

PERSONAL SERVICES

HOMEWATCH
2865 South Colorado Blvd., Denver, CO 80222; (303) 758-7290; (800) 777-9770
Description: Full-service house-sitting by trained, bonded, and insured adults for people who are away from home on business or vacation; companion-sitting (nonmedical) and handyman services; good part-time business for retired or semiretired people
Experience Required: Some management background or previous business ownership preferred
Year Business Began: 1973
Year Franchising Began: 1984
Number of Franchises: 28
Minimum Start-Up Costs: $10,000
Franchise Fee: $6,000 and up (depending on territory)
What Investment Buys: Geographic area with population of 200,000, four-day training (includes software training), logo, manual, advertising materials
Royalty: 0
Advertising Royalty: 0
Financing Available: Yes, when buying multiple territories

TGIF Peopleworks*
P.O. Box 828, Old Lyme, CT 06371; (203) 434-1262
Description: Domestic and special-help search-and-referral service for in-home help, such as child care, elder care, and housekeeping
Experience Required: None, but franchisees must be people-oriented
Year Business Began: 1982
Year Franchising Began: 1986
Number of Franchises: 18
Minimum Start-Up Costs: Approximately $5,000 (includes fund for advertising campaign, printing costs, phone installation, and agency licensing and bonding)
Franchise Fee: $8,500
What Investment Buys: Three-day training at corporate headquarters or franchisee's site, monthly newsletter, computer program for business, ongoing support, network of other offices to work with for co-matching, network of training schools to provide trained help
Royalty: 8%
Advertising Royalty: 2%
Financing Available: No

PUBLISHING

FINDERBINDER and SourceBook Directories*
4679 Vista St., San Diego, CA 92116; (619) 284-1145; (800) 255-2575
Description: Publishes media directories for businesses in public relations, communications, advertising, consulting, or business-management fields; designed as add-on small business for consulting firms and community-relations institutions
Experience Required: Must have an established business
Year Business Began: 1974
Year Franchising Began: 1978
Number of Franchises: 24
Minimum Start-Up Costs: $8,000–$10,000 (includes printing costs, supplies, and research staff)
Franchise Fee: $1,000
What Investment Buys: Detailed operations manual, camera-ready art for advertising and promotion, ongoing operational support
Royalty: 5%–15% (descreases as sales increase)
Advertising Royalty: 0
Financing Available: No

Small Business Media Network*
1858-C Independence Sq., Dunwoody, GA 30338; (404) 394-3268
Description: Publisher of *Small Business Digest*, a monthly publication tailored for small-business owners; offers efficient business-to-business advertising
Experience Required: Sales or management
Year Business Began: 1987
Year Franchising Began: 1989
Number of Franchises: 5
Minimum Start-Up Costs: $15,000
Franchise Fee: $23,500–$47,500 (depending on the market and number of publications to be developed)
What Investment Buys: Two-week training, operations manual, media kits, contracts, administrative forms
Royalty: Editorial-page design fee, $150 per page per issue
Advertising Royalty: 0
Financing Available: No

Wedding Information Network
11128 John Galt Blvd., Suite 512, Omaha, NE 68137; (402) 331-7755
Description: Publishes *The Wedding Pages*, a 250-page wedding planner, workbook, and local advertising directory offered free to newly engaged couples. Advertisers in *The Wedding Pages* are supplied with a market database compiled from reply cards that gives them a competitive edge in this $33 billion industry.
Experience Required: Marketing and sales, media and advertising
Year Business Began: 1982
Year Franchising Began: 1984
Number of Franchises: 76
Minimum Start-Up Costs: $1,000–$10,000 (depending on size of franchise)
Franchise Fee: $7,500–$40,000 (depending on territory)
What Investment Buys: Products and rights to be local publisher of *The Wedding Pages*
Royalty: 10%
Advertising Royalty: 0
Financing Available: No

CLEANING SERVICES

Classy Maids*
P.O. Box 160879, Altamonte Springs, FL 32716-0879; (407) 862-6868; (800) 445-5238
Description: Residential and commercial cleaning service, specializing in single-family homes and offices
Experience Required: None
Year Business Began: 1980
Year Franchising Began: 1985
Number of Franchises: 31
Minimum Start-Up Costs: $4,000
Franchise Fee: $5,900–$9,500 (depending on population of territory)
What Investment Buys: Training, ongoing assistance, starter kit of cleaning equipment and supplies
Royalty: 6%
Advertising Royalty: 0
Financing Available: Will finance half of the fee over four years

Maid Brigade
850 Indian Trail, Lilburn, GA 30247; (404) 564-2400; (800) 722-6243
Description: Supervised team cleaning services for single-family homes
Experience Required: None, but business background preferred
Year Business Began: 1978
Year Franchising Began: 1979
Number of Franchises: 204
Minimum Start-Up Costs: $15,000–$20,000 (for operating expenses)
Franchise Fee: $16,900
What Investment Buys: Right to use name, one-week training class, operations manuals, start-up kit that includes janitorial supplies, printed materials, training videos, and marketing materials
Royalty: 7%
Advertising Royalty: 2%
Financing Available: No

The Maids International*
4820 Dodge St., Omaha, NE 68132; (402) 558-8797; (800) THE-MAID
Description: Completely computerized residential cleaning service
Experience Required: None, but business background preferred
Year Business Began: 1979
Year Franchising Began: 1981
Number of Franchises: 220
Minimum Start-Up Costs: $25,000 (for operating capital, includes leases for cars and computers, labor, and advertising)
Franchise Fee: $16,900 (includes complete equipment package)
What Investment Buys: Use of name, exclusive system, pretraining, corporate training, and posttraining, complete equipment and advertising package
Royalty: 5%–7%
Advertising Royalty: 2%
Financing Available: Only for expanding territories

McMaid, Inc.
10 W. Kinzie, Chicago, IL 60610; (312) 321-6250; (800) 444-6250
Description: Residential cleaning service utilizing team-cleaning methods
Experience Required: None, but business background preferred
Year Business Began: 1975
Year Franchising Began: 1988
Number of Franchises: 11
Minimum Start-Up Costs: $22,400 (for cleaning equipment, supplies, office space, insurance, office furniture, advertising, car leasing, and operational expenses)
Franchise Fee: $15,000–$30,000 (based on numbers of households in population)
What Investment Buys: Use of name, two-week training, ongoing support, supplies at cost
Royalty: 6%
Advertising Royalty: 2%
Financing Available: Yes, with $15,000 minimum down payment

Merry Maids*
11117 Mill Valley Rd., Omaha, NE 68154; (402) 498-0331; (800) 798-8000
Description: The largest maid service in the home-cleaning industry
Experience Required: None, but business background preferred
Year Business Began: 1980
Year Franchising Began: 1981
Number of Franchises: 490
Minimum Start-Up Costs: $7,000
Franchise Fee: $18,500
What Investment Buys: Equipment, one-week training, supplies and cleaning products, computer software
Royalty: 7%
Advertising Royalty: 0
Financing Available: Yes, up to $10,000 toward franchise fee

Molly Maid, Inc.
3001 S. State St., #707, Ann Arbor, MI 48108; (313) 996-1555
Description: Regularly scheduled cleaning services
Experience Required: None, but business background a plus
Year Business Began: 1978
Year Franchising Began: 1981
Number of Franchises: 400
Minimum Start-Up Costs: $8,000 (working capital, includes leased cars, insurance, and bonding of employees)
Franchise Fee: $16,900
What Investment Buys: Exclusive rights to territory, equipment and supplies, training, and start-up business documents
Royalty: 3%–6% (decreases as sales increase)
Advertising Royalty: 2%
Financing Available: No

ServiceMaster
2300 Warrenville Rd., Downers Grove, IL 60515; (708) 964-1300
Description: Professional residential and commercial cleaning and lawn-care services with more than two million customers worldwide.
Experience Required: None
Year Business Began: 1947
Year Franchising Began: 1952
Number of Franchises: 4,200
Minimum Start-Up Costs: Up to $10,000 (includes training, equipment, and supplies)
Franchise Fee: $6,000–$18,000 (depending on the type of franchise)
What Investment Buys: One-week training at headquarters and ongoing support
Royalty: 10%
Advertising Royalty: 1%
Financing Available: Up to 65% of total cost

** Indicates computer-dependent businesses*

Three Easy Backup Strategies That Can't Fail

ILLUSTRATION BY JEANNE BERG

Be Smart and Safe by Making Copies of Your Most Important Computer Asset—Your Data. Plus: Suggested Software to Speed Up Backups

BY STEPHEN MILLER

No matter how many times I've advised my clients to make regular backups of the data in their computers, too many get busy and let it slide. After a long day's work, it's too easy to say, "I'll do it tomorrow."

STEPHEN MILLER *reviewed* Current, *IBM's information-management software, in the June 1990 issue.*

Making backups of your data can be tedious, repetitive, boring, and—since problems are rare—a seemingly unnecessary chore. But rare or not, disks crash, power surges and fires occur, coffee spills on keyboards, computers crash to the floor when you rearrange your office and, yes, computers are stolen. In fact, if my home office were to catch fire, the only thing I would try

to save is my box of backup disks. I can always buy another computer and new copies of software, but I can't replace my work from the past 10 years. Backups are like insurance premiums: money down a black hole until you have a claim, then it's the best money you ever spent.

Many of my clients don't perceive that the information on floppy disks is as substantive as paper documents, even though the data on their disks is just as important. Most people, no matter how tired, find it easy to make a photocopy of that client proposal, "just in case." But they haven't yet learned to think of computer information in the same manner. Until they do, I've tried to make the backup process as painless as possible. What follows are strategies that have proved useful to me and others, and which might make it easier for you to make those necessary backups.

FINDING YOUR BEST STRATEGY

When trying to develop a backup strategy, first consider how you use your computer. Do you create a few small files a day—for example, just letters and memos? Or do you generate large volumes of data—numerous additions to a database, complicated proposals, huge spreadsheets—each of which could take up megabytes of disk space? Do you use only a few programs, such as a word processor and an accounting package, or do you run the gamut of applications—database, desktop publishing, presentation graphics, spreadsheet, a personal-information manager, and communications? How you use your computer often dictates how you should back up your data.

I've categorized backup strategies into three general types:

- **The Running Backup**, the easiest to implement and maintain, lets you make backup copies as you work. This strategy is especially effective if you create just a few small files each day.
- **File Grouping** combines the Running Backup strategy with organizing your work on specific disks grouped by project or client—a method I often recommend to those using several applications.
- **Archiving Backup** uses a technique that compresses files, allowing you to store data on a minimum of floppy disks. Archiving data is almost essential if you're backing up any large files or lots of small files.

The first two methods can be done using either MS-DOS, the Macintosh Finder's file-copying function, or a backup program specifically designed to automate the backup process (*see box, "Software to Cover Your Assets"*).

PHOTOGRAPH BY GREGORY GRIFFIN

"I keep a floppy disk in my A drive, and whenever I save something to the hard disk, I also save it to the floppy."

—AUDREY EDWARDS, WRITER AND REAL ESTATE BROKER

THE RUNNING BACKUP—COPY AS YOU WORK

Writer and real-estate broker Audrey Edwards—who works out of her Brooklyn, New York, apartment—uses her computer mainly for word processing. Most of her documents, short letters and memos, don't require much disk space. Even though she has a hard drive on which she saves her information, Edwards also uses the Running Backup technique. It's her way of making copies of files as she goes along.

"I keep a floppy disk in my A drive, and whenever I save something to the hard disk [the C drive], I also save it to the floppy," Edwards explains. Most programs let you determine where any document is to be stored, whether in the same directory on your hard drive as the program, in another directory, or on a floppy drive. With the running backup strategy, you save the document to the hard drive as usual, and then save it again but add *A:* in front of the file name to send a copy of the work to the floppy drive. Not only does she have a copy of the data on the hard drive, but she has an instant backup disk that is as up-to-date as her last save.

FILE GROUPING—ORGANIZE WORK AS YOU BACK UP

A variation on that strategy is to make a running backup of similar files grouped on specially marked disks. Dr. Kathryn Baker Kemp, a Chicago educator, has a special disk for each project she works on in her home office. She has one disk for work that she brings home from her job as a high-school administrator, another disk for the grant proposals she writes as a volunteer with a community organization, and a third disk for the various bits of information she uses in publishing her family's newsletter. Dr. Kemp's family is scattered throughout the country, and the latest news (marriages, births, deaths, graduations, and so on) is funnelled through her to the rest of the family via the newsletter.

She runs all her programs from her hard drive, but she saves her work to a floppy disk that contains only those files associated with a particular project. "I find it easier to keep track of [various projects] if they are on separate disks." She also feels that it's easier then ("maybe just psychologically") to make a second backup copy on a floppy as a further precaution. She says that making a copy of a floppy is not as daunting as trying to back up an entire hard-disk drive's worth of data.

ARCHIVING BACKUP—SAVE LIMITED DISK SPACE

Dwight Ellis accidentally hit upon his backup strategy. A vice president of the National Association of Broadcasters, Ellis is on the road frequently, transporting his office in the form of a laptop computer. He has limited disk space on his hard drive;

much of it is taken up with various programs (word processor, spreadsheet, database, presentation graphics, and communications). Since he couldn't store large amounts of data on his hard drive, he began using a file-compression program on files he didn't need regularly to save space on the hard-disk drive.

File-compression programs—commonly called *archivers*—automatically analyze the way a file's information is stored and then compress the file to its smallest possible size. For technical reasons, most files have gaps in them. File compressors eliminate those gaps without damaging information that is saved. You can't, however, work with the information in a compressed file without first decompressing it. There are several competing and excellent compressors: One of the most popular is *PKZip/PKUnzip* for MS-DOS; *StuffIt* is the standard program for the Macintosh.

Since Ellis was routinely archiving files on his hard disk, it was a simple matter to copy the files to a floppy and have a backup in a compressed format. His laptop has a 1.44MB floppy drive, so he can store just about every scrap of data he works with on one 3.5-inch disk. "I usually make three copies of my disks because you never know what might happen on the road," he says. He keeps one copy with the computer, another in his bag, and a third in his pocket. Ellis also notes that he keeps an uncompressed version of *PKZip/PKUnzip* on each of his backup disks. "It's not that I'm paranoid," he jokes, "but whether I'm paranoid enough." When he first started using his laptop, the hard drive crashed, and he lost his newly created quarterly budget figures. "No backup," he lamented.

MS-DOS BACKUP TECHNIQUES

For those with MS-DOS computers, there are several DOS commands for backing up and restoring data. They include Copy, DiskCopy, XCopy, Backup, and Restore. I'll touch on their use here; but for a complete look at how they work, consult your DOS manual or one of the many available books about using DOS.

The Copy command, along with the proper parameters (for instance, "copy *.* a:" will copy all files in your current directory to the A drive), will do a mass copy of files, but only until it fills up the receiving disk. Copy does not prompt you to change disks and then automatically pick up where it left off. Using Copy on more than a few files can be tedious and confusing.

DiskCopy will work only if you have two floppy drives of the same size—it copies from one floppy drive to another but not from a hard disk to a floppy (or vice versa). Unfortunately, a lot of systems today have two floppy drives with mixed disk formats—one 5.25-inch drive and one 3.5-inch drive. DiskCopy won't work on these mixed drives.

SOFTWARE TO COVER YOUR ASSETS

Although there should be no question about *whether* to back up your data, *how* you do it depends on your work habits, the amount of data you're generating, and your equipment. For instance, if you're creating only a few files each day, you can back them up by making duplicate copies to floppies. However, if you work off a hard-disk drive, you'll probably copy information from it to a series of floppy disks. So the more data you have saved on the hard disk, the more disks you'll need and the longer it will take to back up.

BACKUP PROGRAMS

That's why dedicated backup software is invaluable if you need to copy either many small files or just a couple of large files. Because they automate the backup process, these utilities are real time-savers. For example, you can tell the program to back up only those files created by your word processor and spreadsheet. In addition, dedicated backup programs often automatically compress files as they're backed up, which saves disk space and backing-up time.

All of the commercial backup programs listed below have stood the test of time. I have used most of them myself or have been given strong recommendations from people I know and trust. All of these utilities let you back up and restore files with relative ease. I hate doing backups, so the less time spent, the better.

MS-DOS

Back-It v1.0 ($130). Gazelle Systems, 42 N. University Ave., #10, Provo, UT 84601; (800) 233-0383.

Fastback Plus v2.1 ($189). Fifth Generation Systems, Inc., 10049 N. Reiger Rd., Baton Rouge, LA 70809; (800) 873-4384.

Intelligent Backup v3.2 ($149). Sterling Software, 202 E. Airport Dr., #128, San Bernardino, CA 92408; (714) 889-0226.

Mace Utilities Gold Edition v1990 ($149). Fifth Generation Systems, Inc., 10049 N. Reiger Rd., Baton Rouge, LA 70809; (504) 291-7221, (800) 873-4384.

PC Tools Deluxe v6.0 ($149). Central Point Software, 15220 NW. Greenbriar Pkwy., #200, Beaverton, OR 97006; (503) 690-8090.

The Norton Backup v1.1 ($149). Peter Norton Computing, 100 Wilshire Blvd., Santa Monica, CA 90401; (213) 453-2361.

MACINTOSH

Backmatic v1.1 ($100). Magic Software, Inc., 2206 Franklin St., Bellevue, NE 68005; (402) 291-0670.

DiskFit v1.5 ($100). SuperMac Software, 485 Potrero Ave., Sunnyvale, CA 94086; (408) 245-2202.

Fastback II v2.1 ($189). Fifth Generation Systems, Inc., 10049 N. Reiger Rd., Baton Rouge, LA 70809; (504) 291-7221, (800) 873-4384.

MacTools Deluxe v1.0 ($129). Central Point Software, 15220 NW. Greenbriar Pkwy., #200, Beaverton, OR 97006; (503) 690-8090.

Redux v1.62 ($99). Microseeds Publishing, 7030B W. Hillsborough Ave., Tampa, FL 33634; (813) 882-8635.

Retrospect v1.1.2 ($249). Dantz Development Corp., 1510 Walnut St., Berkeley, CA 94709; (415) 849-0293.

Symantec Utilities for Macintosh (*SUM II*) v2.0 ($149). Symantec Corp., 10201 Torre Ave., Cupertino, CA 95014; (408) 253-9600.

ARCHIVING SOFTWARE

Archiving, or file-compression, programs serve two main functions: They reduce the size of files, and they let you store numerous compressed files in one "super" file. These programs also restore files to their original condition as needed. The ability to shrink files and put them together in one large file speeds up file transfers via modem. As noted in the main article, it also saves disk-storage space.

Computer operating systems, such as MS-DOS, offer various methods of storing information, which can determine file size. For example, in early versions of DOS, any file—whether it contained 1 or 1,024 characters—took up at least 1K of disk space. In addition, each program has its own data-storage scheme. Spreadsheet files tend to have a lot of blank space because the information is displayed in a tabular format. All the spaces that are needed to line up the data on-screen can be eliminated in a compressed file, thus saving space. Archiving programs analyze a file and determine how much padding is in each block—and then eliminate it. Depending on its original storage scheme, a file can be reduced to 90 percent of its original size, although the average is about 50 percent.

File-compression programs offer several options. You can add only files that have been changed since your last addition, you can add comments to each file, and you can protect the file with a password. Because they're often used to send files on-line, the major archiving programs—distributed as shareware—are available for downloading via modem on just about every BBS in the country and on on-line services like PC Link and CompuServe, as well as directly from the publisher.

MS-DOS

ARC v6.02 ($50). System Enhancement Associates, 21 New St., Wayne, NJ 07470; (201) 694-4710.

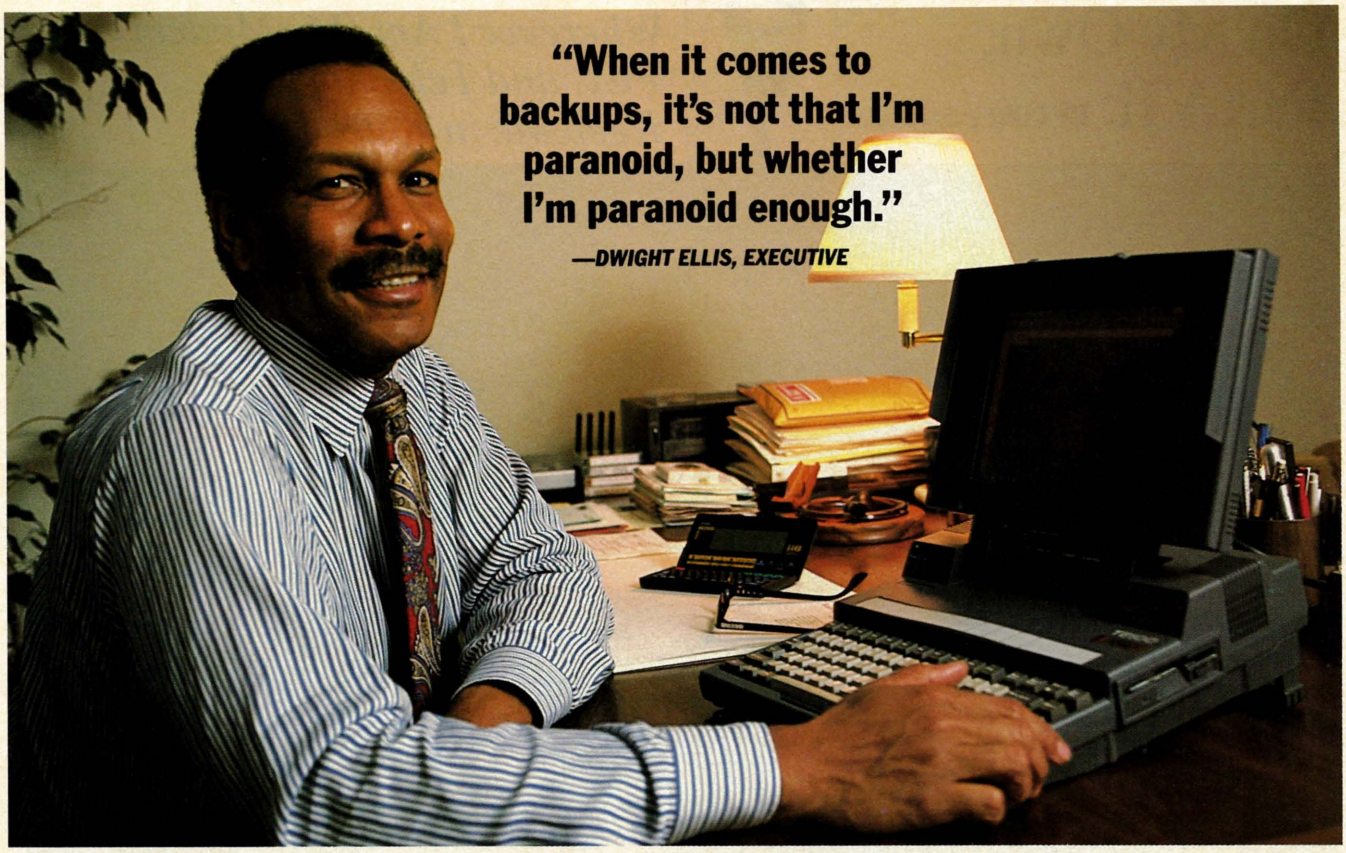
ICE v1.0 (no cost). Public domain (available on-line).

PAK v2.10 ($15). NoGate Consulting, P.O. Box 88115, Grand Rapids, MI 49518-0115; (616) 455-6270.

PKZip/PKUnzip v1.1 ($47). PKWare, 7545 N. Port Washington Rd., Glendale, WI 53217; (414) 352-3670

MACINTOSH

StuffIt v1.5.1 ($25). Aladdin Systems, Deer Park Center, Suite 23A-171, Aptos, CA 95003; (408) 685-9175.



PHOTOGRAPH BY PAM PRICE

XCopy fixes Copy's inability to mass copy across multiple-size disks. When a floppy disk becomes full, XCopy prompts you to insert a new disk and continues to copy files where it left off. XCopy also automatically copies all the files in a subdirectory and the files in any subdirectory under it. XCopy, unfortunately, is only available on DOS 3.3, DOS 4.0, and higher versions. If you have an older version of DOS, you'll have to buy a new version and reinstall it.

Backup and Restore are twin commands designed just for that—backing up files from your hard-disk drive and restoring them when you need them. These commands possess attributes the other DOS copy commands do not. For example, even if your backup file is larger than a single floppy, Backup will store the file across multiple disks. However, unlike Copy and XCopy, files stored with Backup can't be read directly from the floppy disk; you have to first use the Restore command on the file. Note that Backup and Restore have bad reputations among longtime DOS users—the commands, especially Restore, were not entirely reliable before DOS 3.0—so make certain you use the latest version.

DEDICATED BACKUP PROGRAMS

Bob Bridgers is a real-estate developer who specializes in brownstone renovation. He works out of his New York home, but most of the time he carries his laptop to various building sites. Conscious of the possibility of losing or damaging his laptop, he always makes current backups. While he worries about backing up his data for its own sake, he is just as concerned about the time backing up takes. With his busy schedule, time is important. He bought a commercial program, *Fastback Plus*, that speeds up the process. "I can back up my 10-megabyte hard drive in about five minutes," Bridgers emphasizes. He points out that another backup method he tried took nearly an hour to accomplish the same task.

Software publishers produce a wide variety of utilities whose sole purpose is to automate backing up your hard disk. (Many of the same programs will back up floppy disks, too, but that's often overkill, since MS-DOS or the Mac's Finder can suffice for smaller quantities of data.) The utilities let you back up and restore as many files as you need. Most have timesaving capabilities, so you back up only the files you deem important without specifying them during each backup session. For example, you might tell the program to back up just those files that have changed since the last backup. Several MS-DOS utilities back up the files in regular format so you can use the files without going through a restore process. Those, however, are in the minority—most dedicated backup programs work with a unique storage format that can be read only by the program itself. Several programs add compression techniques to save disk space. That can be a real issue: If you did a DOS Copy of a 30MB hard-disk drive to 360K floppies without compression, you'd need more than 80 disks. And the fewer disks you need for backup, the less time it takes.

YOU CAN NEVER BE TOO CAREFUL

The number of floppy disks I needed to back up my hard disk is what led me to my backup strategy: I combine archiving with a commercial backup program. I begin by compressing files with *PKZip* and then back up the zipped files with *Fastback Plus*. I've got nearly 1,500 data files, taking up about 22MB on my hard disk. While I don't need to back up all my files regularly, even with *Fastback*'s own file-compression technique, it still takes twenty 5.25-inch, 1.2MB disks to copy my full 22MB. By zipping them first, the disk count is reduced to nine. I further automate the process by using a DOS batch-file routine that first runs *PKZip* to compress the files and then runs *Fastback Plus* to back them up. (A batch file is a series of DOS commands saved in a text file so that you don't have to execute them one at a time.) With as much of the backup routine as automatic as possible, I'm more likely to back up my data—and more likely to be covered in case of disaster.

The top three rules in real estate are location, location, and location. In computing the three rules should be backup, backup, and backup. Losing the information on a hard disk can be a major trauma. All your hard work is literally erased. You feel helpless and angry. You don't ever want it to happen again. If it has happened to you, then you know why Dwight Ellis asks, "Am I paranoid enough?" ■

On My Own, Part VII: BY COREY SANDLER

Wherever I Am, My Modem, Fax, and Telephone Keep Me in Touch

Staying Connected To the Business World

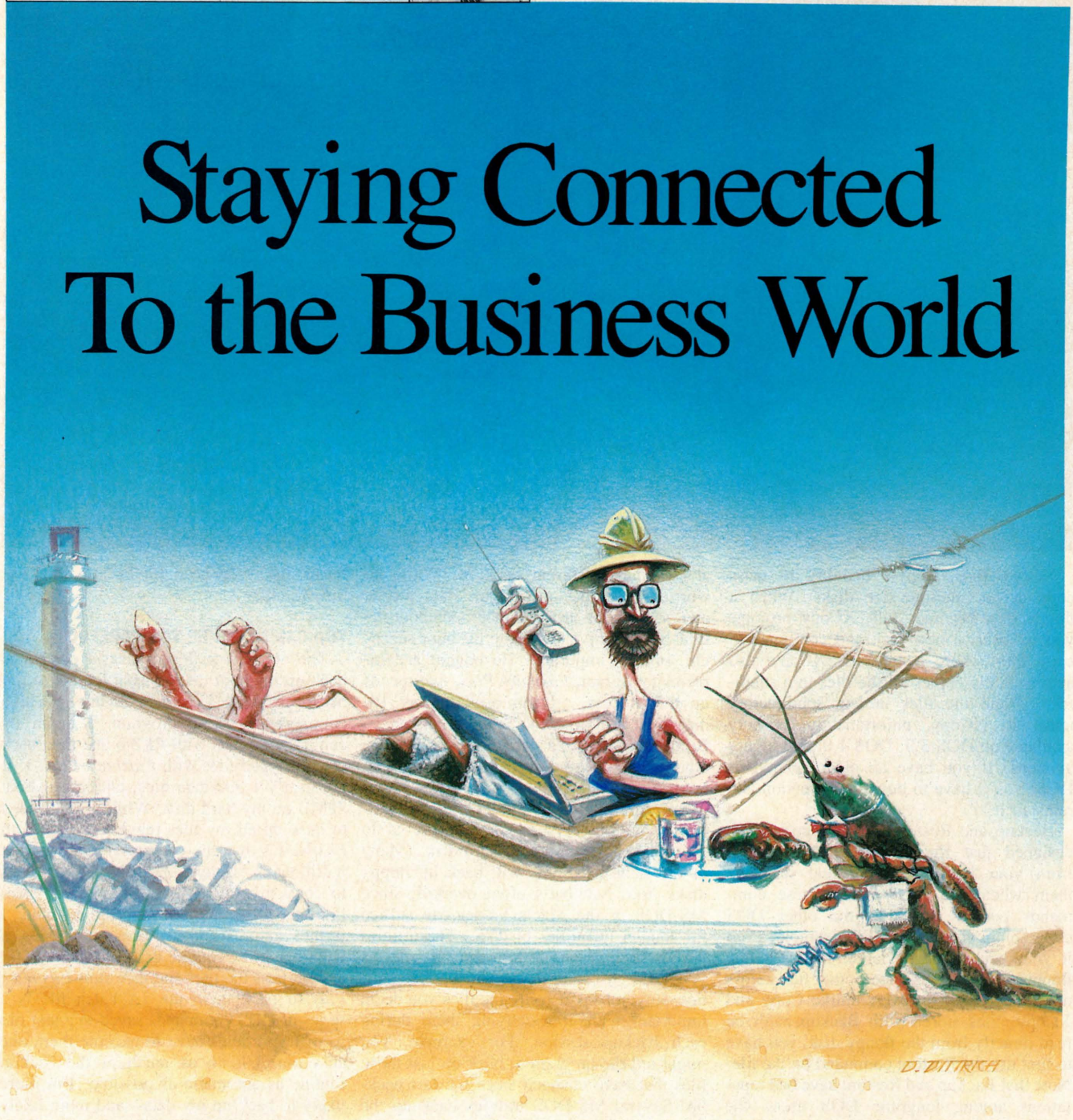


ILLUSTRATION BY DENNIS DITTRICH

I was talking on the phone with an engineer in Kaohsiung, a city on the southern tip of Taiwan. On my computer screen was an electronic-mail message from a New York publisher. The phone beeped, and I put Asia on hold to talk with the chief executive of a major computer manufacturer. I heard the fax machine answer another phone line to receive a letter from Canada.

No one knew—or needed to know—that I was sitting on an island 30 miles out to sea, in my bathing suit and a T-shirt, with a two-line cordless telephone in hand and a battery-powered portable computer at my fingertips.

I run a business from my home—or wherever I happen to be—and I love the freedom that gives me. But I also know how important it is to sound as if I'm working in a corporate office. Fortunately, it's quite easy to put up a convincing professional facade. I think of the devices I use as my equivalent to a movie studio's street of false fronts.

COREY SANDLER *is president of Word Association, an editorial-services company with offices in Holliston and Nantucket, Massachusetts, Corryton, Tennessee, and many places in between.*

In my business as a writer and editorial consultant, I spend more or less equal amounts of time in three locations. My main headquarters is a three-room suite of offices in the basement of my home in a semirural town outside Boston. I also have a fully equipped office in the den of my summer house on the island of Nantucket, 30 miles off the coast of Cape Cod. And, I spend nearly one-third of the year traveling around the world in pursuit of stories and clients or, occasionally, vacationing.

To support my peripatetic lifestyle, I've devoted a great deal of effort to finding ways to make my location totally irrelevant to the people I do business with. The first and most important tool is the telephone. The telephone offers the following:

- Voice communication around the world
- An automatic secretarial service that takes messages when I am not in the office
- A connection to my fax machine for transmitting and receiving written and printed materials
- A carrier of electronic information to and from my personal computers and those of my partner, 1,000 miles away in Tennessee
- A link from my desktop to vast stores of information in on-line databases and libraries
- The speediest and most reliable of mail carriers, receiving and delivering my messages through several electronic mail services
- A connection from the automatic burglar-alarm system in my home and office to a central monitoring bureau

TALKING ON THE PHONE

I have two phone lines—one for voice, and one for both voice and data. I use a device called ExtraLine from Lynx Automation that allows me to use the same line for fax and voice (*see "Avoiding the Cost of a Second Phone Line" on page 53 of the April issue*).

On particularly cold or wet days, which is to say about half the year in New England, my phone conversations sometimes sounded like shouts across a running wheat thresher. My solution was to buy the best telephone equipment I could find. The two Radio Shack Duofone 205 phones and two Panasonic Easa-Phone two-line phones on my desk include small adjustable amplifiers I can use to increase (or decrease) the volume in the earphone. And on my principal lines I have a lightweight two-line headset with a microphone. The headset (*bought from Hello Direct; see "Communications Information"*) helps me hear better and also prevents the near-terminal stiff neck I get after a few hours on a conventional phone.

My average monthly long-distance bill is about $300. I use MCI Premier for long-distance calls. It provides me with discounted service as well as a client-coding service. Each time I place a long-distance call, I hear a second dial tone before the call is connected. At that time I punch in a two-digit code; when the monthly bills come in, all of my calls are grouped according to the billing code I used, making it very easy for me to account for expenses and bill clients. I use about 20 billing codes, and have built many of the codes into the autodialers of my fax machine, modem, and telephone system.

When I'm not around to answer the phone, my various answering machines time-stamp each incoming message, telling me what day and time a message came in and on which line. I make regular use of the remote-retrieval feature of the machines, calling in from touch-tone telephones to listen to messages.

And if I can't get through to someone, I've found sending a fax an excellent way to get around busy telephones and the protective wall of secretaries. A faxed note that says something like "Dear Ms. Keefe: I'd appreciate a quick callback about the Meadow Lane contract" generally goes right to the desk of the intended recipient.

COMPUTER-TO-COMPUTER COMMUNICATIONS

My partner, Tom Bladgett, runs his half of the business from a farm in Tennessee. We spend an hour or more each day coordinating the various projects we share; when there are drafts of manuscripts or proposals to be discussed, we fire up our 9600-baud modems and use the phone lines to send electronic files back and forth. With a computer-to-computer connection, we can send files much faster than we can using an electronic mail service.

By using the same word processor (*WordPerfect* 5.0) and spreadsheet (Lotus *1-2-3* Release 2.2 with *Allways*), we're able to send formatted binary files. This allows us to examine the same file on screen at the same time.

Another part of our interoffice mail setup involves the use of an electronic mail service. I've been using MCI Mail from its start in 1983. I can send a message to any other MCI Mail subscriber at any time; my intended recipient can pick up the message whenever it is convenient. Over the years MCI has added links to other mail services, including CompuServe, extending my reach. I also use MCI Mail as a link to Telex systems, still in wide use overseas. When I'm traveling and away from a fax machine, I can compose a letter and send it to MCI Mail for retransmission as a fax—complete with a replica of my letterhead and signature. I'm shopping for a fax card so I can receive faxes while I'm on the road.

Right now, I primarily use my portables (Packard-Bell 286 and Toshiba 1200) as laptop workstations in airplanes and on the patio, so I don't need a modem very often. If I know I will be needing to sign on from the road, I pack a small external modem in my suitcase. I don't have much trouble in hotel rooms, mostly because I'm not shy about disassembling a phone if necessary. I carry a handmade device that consists of a set of alligator clips wired to a female RJ-11 jack for emergencies, but I usually can find a way to disconnect a phone. However, more and more hotels are offering phones with extra jacks for modems.

THE TELEPHONE FACADE

What are my future plans for my telephone facade? My local phone company has just expanded its electronic switching system, and I intend to add call forwarding to my lines so I will be able to transfer all incoming calls to whichever office I am working from. For instance, I'm forwarding all calls for the Holliston office to Nantucket this summer. In Nantucket, I have just added a second phone line that includes a distinctive-ringing service. With this service and a line-switching unit, calls will be routed to the proper device.

Sooner or later, I'm going to buy a portable cellular phone so I can direct all my fixed local telephone lines to the cellular device with call forwarding. And then I will finally have the answer to the old Firesign Theater question: How can you be in two places at once when you're not anywhere at all? Answer: In these days of electronic teleportation, no office is an island. ■

COMMUNICATIONS INFORMATION

Here are some sources I have come to rely on for telecommunications equipment and services:

Hello Direct offers a wide range of quality telephone and telecommunications devices. Hello Direct, 140 Great Oaks Blvd., San Jose, CA 95119. (800) 444-3556.

Inmac's catalog includes cables, line boosters, test equipment, and modems of all descriptions. Inmac, 2465 Augustine Dr., P.O. Box 58031, Santa Clara, CA 95052. (800) 547-5444.

Radio Shack sells telephones, switches, amplifiers, and redialers at its stores.

CompuServe, an on-line information service, offers a variety of databases, as well as an electronic mail service. For information, call (800) 848-8199.

MCI Mail, an electronic mail service, is available to any user of a personal computer equipped with a modem. For customer support call (800) 444-6245.

FUTURE *ON MY OWN* TITLES

Shopping for Supplies
Making the Business Work

Choosing the Best Computer

BY EDWARD P. STEVENSON

ILLUSTRATIONS BY BRAD HAMANN

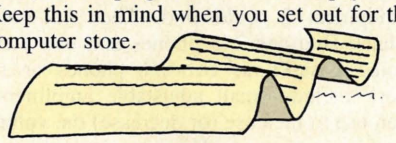
These Expert Tips Will Help You Avoid Common Buying Blunders

The last time I bought a computer system, I thought I was finally going to make the perfect purchase. I'd been around; I was a computer professional; I knew the ropes. As it turned out, although I did manage to get most of it right, I made at least one blunder.

Let me recount two of my decisions: The system in question was purchased at the height of the last RAM-chip shortage. The computer came with 1MB of RAM, and I knew I wanted more (so I could use SoftLogic Solutions' *Software Carousel* to move freely among the several applications I use regularly), but the amount of RAM I envisioned installing would have almost doubled the price of the system at the time. I can live without it for the time being, I thought. And so I did. I recently added the RAM I wanted for about one-sixth of what it would have cost me at purchase time. Good for me.

At the same time, since I planned to do a significant amount of desktop-publishing work, I decided that I should have a high-resolution desktop-publishing monitor. Go for it, right? The vendor was willing to find one for me and pass it along at a good price. Unfortunately, neither the vendor nor I had any experience with this display in this computer system. It was great for desktop publishing—crystal-clear text in two-page layout mode. The problem was that the screen blanked out frequently with most of the other software I used, and often I couldn't coax it back to life. It was a nightmare. After tearing my hair out for more than a year, I finally broke down and bought the monitor I should have had in the first place—the one the vendor normally supplied with the system. But I paid more for it than I would have had I bought it with the computer.

The saying "Penny-wise and pound-foolish" is the key to most really regrettable computer-buying decisions (although not mine). Scrimping on tools seldom pays off. Keep this in mind when you set out for the computer store.



DOs

✓ Do make sure the system you buy is fast enough to comfortably run the software you want to work with. While just about any MS-DOS computer can run just about any MS-DOS software, it can be slow.

In general, a 12-MHz 286 system should

EDWARD P. STEVENSON, *senior technical editor for* HOME-OFFICE COMPUTING, *has learned the hard way.*

do the job for people whose work involves a full-featured word processor (like *WordPerfect* or *Word*), a standard spreadsheet (like *Quattro*, *1-2-3*, or *Excel*), a relational database (such as *dBase*, *RBase*, or *Paradox*), a modest-size accounting package, and the like. People using several such packages or working with particularly large files or more sophisticated and processing-intensive software (desktop-publishing programs, for example) may want to consider a faster 286 or a 386SX or 386DX system.

Here are a few key points to think about when selecting your system's basic component, the microprocessor.

- Programs that work with graphics—such as paint, scanning, or desktop-publishing packages—are slow, since graphics involves processing *much* more data than text-based applications. A 20-, 25-, or 33-MHz 386 computer with a high-speed memory cache (a data-storage technique that increases speed by 20 to 50 percent) will save you time and frustration and may be worth the extra expenditure.
- Graphical user interfaces (GUIs), like *Windows*, *DeskMate*, and *GEM*, are becoming more and more popular working tools because they simplify interactions with the operating system (DOS) and bring the ease and speed of the mouse to file-management and basic program-selection tasks. GUIs are slow and call for a 16-MHz 286 or a 386SX or faster computer to function at an acceptable pace.
- Some sophisticated new software for database management, optical character recognition, and computer-aided design is written to run only on 386 microprocessors and their descendants. There are, of course, pre-386 versions of all these packages, but the 386 versions are faster and more powerful.
- Here's a point related to microprocessor *architecture* (rather than speed): Some complex software packages like *Ventura Publisher* require expanded memory to function at maximum efficiency. That's because the program code alone more or less fills up the system's conventional RAM, leaving little or no room for the text, graphics, and other files that make up publications. With expanded memory, both program code and data files can reside in live memory at once, making for the fastest possible operation. Expanded memory is easier and cheaper to implement on a system with a 386 or 486 microprocessor.

✓ Do make sure the system you're considering has enough RAM—and that it has adequate provision for RAM expansion on the motherboard.

Different software packages and different ways of working with software call for varying amounts of RAM. Software packages that may require more than the conventional complement of 640K are (in addition to *Ventura Publisher*, mentioned above) recent versions of sophisticated spreadsheets, such as Lotus *1-2-3* v2, and relational databases with large or complex data files.

Program switching (also called context switching) sets up discrete spaces (''partitions'') in a computer's RAM, each of which can hold a different application; the user can then move back and forth between applications with a keystroke or two. This is a significant time-saver and makes working with several software packages immeasurably easier. Switching among three or four programs can be done comfortably on a 286 with 1- or 2MB of *extended* (different from *expanded*) memory and software like *Software Carousel*.

"Penny-wise and pound-foolish" is the key to most really regrettable computer-buying decisions.

Multitasking is similar to program switching, except that where a program switcher freezes the applications not in use, multitasking software allows several programs to share the processor and run simultaneously. For acceptable (nonsleep-inducing) levels of performance with a software package like Quarterdeck's *Desqview*, multitasking calls for 1- to 3MB of *expanded* RAM and a computer with a 386SX (or more powerful) microprocessor. The 386 is the appropriate choice both because of its speed advantage and because it makes the implementation of expanded memory cheaper and easier, as noted above.

- An XT system should come with 640K of RAM and may or may not have expansion room up to 1MB. Adding RAM to an XT beyond what fits on the motherboard will require an expanded memory card (costing around $400 including 512K of RAM). If you anticipate *ever* needing more than 1MB of RAM, an XT is a poor choice, since the cost of the memory upgrade will probably be more than the price difference between an XT and a 286.
- A 286 system should come with 1MB; most reasonably up-to-date 286s can accommodate 4MB on the motherboard in the form of SIMMs (single, in-line memory modules: snap-in memory boards available in 256K or 1MB increments). Avoid 286s with no room for on-board RAM expansion—if any are still around.
- Computers based on 386SX and 386DX microprocessors come with 1MB of RAM, although some enlightened manufacturers supply 2MB as standard. An SX should accommodate 4MB on the motherboard (some can hold 8MB). A 386DX, especially one of the faster models with RAM caches, should accommodate 8MB.

✓ Do make sure your system's hard-disk drive has enough storage capacity to see you through the next three years or so—and that its access speed is fast enough.

Today, it doesn't make much sense to buy a system with a hard-disk drive with less than 40MB. One reason is that you'll probably use the 40MB whether or not you think you will. Software packages that take up 3MB or more of disk space are the rule rather than the exception these days. If you have four or five such packages, that's 12- or 15MB: 60 to 75 percent of the capacity of a 20MB drive. You won't have much room for data.

Another reason is that you'll have to search for a system with a 20- or 30MB drive, and you probably won't save an appreciable amount of money even if you find one. Furthermore, smaller-capacity drives are likely to be older and slower.

You may need more than 40MB. If you're a busy general-business user, 60- or 80MB will give you a margin of overhead. If you deal in large (or large numbers of) accounting, spreadsheet, or database files and/or moderately heavy desktop-publishing work, 80- to 120MB is the range you should be considering. Full-time desktop publishers and graphic artists should be looking for hard drives in the 120- to 200MB range.

Just to make things a little more complicated, you should concern yourself with the hard drive's access speed (the average time it takes the read-write head to move to the appropriate location on the disk's surface to read or write data) as well as its capacity. A hard drive must keep up with the computer's processing speed if it is not to be a system bottleneck. An XT will function fine with a hard-disk drive with 65-millisecond (ms) access time. For a 12-MHz 286, the drive should have faster access: 40 ms or better. The popular 386SX calls for hard drives with 24- or 25-ms access speed. Fast 386DX systems should be equipped with drives in the 15- to 18-ms range, many of which use the high-throughput ESDI, SCSI, or IDE interfaces.

✓ Do consider having both a 5.25-inch, 1.2MB and a 3.5-inch, 1.44MB floppy-disk drive installed in your (286 or higher) system. Even if you don't think you need both disk formats, it's almost certain to pay off. It won't take more than one or two occasions when you find yourself without the right floppy drive to load that new software package or swap data from another computer to make you regret not spending the extra $100 to $150. Computers are about convenience and productivity, not saving money, remember?

Do make sure the system has an adequate number of *available* expansion slots (spaces on the motherboard for add-on cards).

A system advertised as having five slots may turn out to have only three available when you get it home from the store. That's because many system designs require a plug-in video card and a plug-in hard-disk controller. Two slots gone. On the other hand, some up-to-date designs incorporate the video and/or disk-drive controller on the motherboard but provide only three or four expansion slots to keep the system unit small.

Commonly used devices that require expansion slots are memory-expansion cards, internal modems, scanner drivers, fax boards, bus mice or other pointing devices, drivers for special displays and graphics enhancement systems, special printer-control cards, LAN boards, and the like.

If you chose your system with memory expansion in mind, you probably won't require a standard expansion slot for this purpose (386 and higher systems usually provide proprietary 32-bit memory-expansion slots). An external modem and a serial mouse, which plug into the ports on the back of your computer, are two more alternatives to filling up expansion slots.

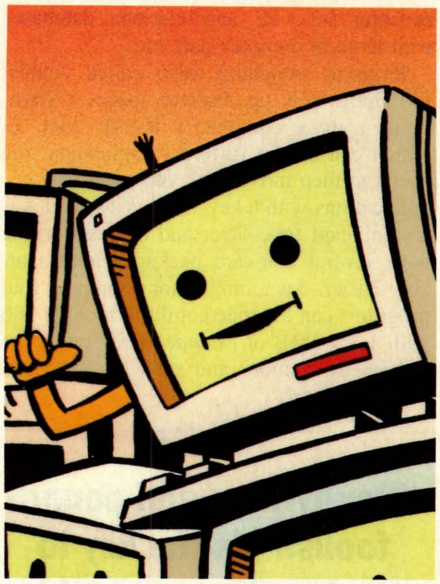
Think through your present and projected expansion needs carefully. Weigh the convenience of a compact system unit against the inconvenience of not being able to add a necessary peripheral device to your system later on. In most cases, you cannot add expansion capacity after buying the system.

Do consider a VGA display subsystem for three reasons: First, the sharper the display, the easier it is on your eyes. You're only issued one set of eyes in this lifetime; it behooves you to take care of them. Second, VGA is now firmly established as a standard; virtually all up-to-date software packages have VGA drivers. Third, it comes with most systems nowadays anyway.

The question of monochrome versus color can be decided by the state of your finances. Monochrome will certainly see you through in most applications and will save you something in the neighborhood of $300. On the other hand, color is nice, it relieves visual tedium, and it helps convey information on a computer screen. It's up to you.

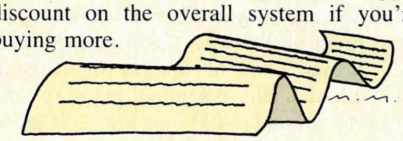
If you do opt for a color VGA screen, inquire about the unit's dot pitch (dot size). The appropriate specification is 0.31 millimeters or lower.

Do consider buying your system from a direct-sales (mail-order) vendor. Conventional wisdom condemns buying computers by mail as risky. As true as this may once have been, it doesn't hold any longer. There are a



number of reliable direct-sales operations manufacturing high-quality MS-DOS computers, selling them directly to the public (usually via UPS, not the U.S. Postal Service) at highly competitive prices and backing them up with excellent service policies. (*For details see "Delivered to Your Doorstep" in the July 1990 issue.*)

Do, if possible, buy peripherals you know you need—a printer, a mouse, or a modem, for example—at the same time you buy your computer. There are two advantages to doing this. First, you can have the dealer handle all installation and configuration. This makes you reasonably immune to the classic computer-dealer dodge of claiming that the problem you're having is the fault of the other guy's peripheral. If the dealer sold it to you and installed it, he'll have to stand behind it if things go awry. Second, you should be able to negotiate a bigger discount on the overall system if you're buying more.



DON'Ts

Don't try to save money by buying less than you need (such as a system with a too-small or too-slow hard-disk drive—or a system lacking a standard display). It almost always ends up costing you more, both in money and in time and aggravation. Save money by careful shopping and by not buying *more* than you need.

Don't allow yourself to be seduced by loss-leader advertising specials. At least not beyond reason. They're based on what is expedient and/or profitable for the dealer to sell, not on what you need. It's fairly unlikely that the special that has you drooling is equipped exactly the way you need your system to be set up. And you'll probably find, if you shop around, that any modifications to the setup the dealer is featuring quickly become very expensive. The savings disappear the minute you specify a higher-capacity hard drive or a different monitor.

Another problem is that sometimes the featured system is out-of-date stuff the dealer is trying to unload. All that being said, if you find the system you're looking for at a bargain price and your discreet questions satisfy you that the dealer in question hasn't substituted inferior components for the ones you'd expect the manufacturer to supply, go for it—and count yourself lucky.

Don't allow yourself to be seduced by offers of bundled software. Like a bargain price on a prepackaged hardware system, this kind of purchase lure often promises more than it delivers. If the hardware is just what you wanted and needed *and* the software is software you know you would purchase anyway, grab it. A more likely scenario, however, is that the hardware isn't *quite* what you had in mind, and while the software looks interesting, maybe, it's not really what you'd planned to use. Also highly possible is that when you really stop to think about it, the software doesn't interest you at all—or that you could buy it for very little money. If this sounds skeptical, it is the advice of someone who bought his first system with a very complete and very fine bundle of software. It's just that I haven't seen one as good since.

Don't write off the Apple Macintosh. True, it is premium-priced and incompatible with 80 percent of the desktop and 98 percent of all the laptop computers in the world, but Macs are good computers, and their advantages—ease of learning, consistent software interface, and easy connectivity—are often glossed over by zealous MS-DOS users. Besides, Macs and MS-DOS computers can communicate in more ways than most people realize: over networks, by modem, and by means of Apple's own Superdrives.

Don't feel locked into "what they're using in the office." If Macs are standard in the office and you like MS-DOS (or vice versa), you'll be able to work out ways of transferring files and doing any other necessary communicating. The important thing is to have computer equipment that you feel comfortable with.

Armed with this collective wisdom and experience, you should be able to confidently select a computer system that will serve your needs for the foreseeable future. ■

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SYSTEM REQUIREMENTS: PC—IBM PC, XT, PS/2, or compatible, 384K RAM, DOS 2.1 or higher, hard disk. Macintosh—System Tools 6.0.2. Supports MultiFinder. Operates on a Mac Plus or higher with 1 Mbyte. Hard disk is recommended.

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OFFICE ESSENTIALS

BY MARIE ALVICH-LOPINTO

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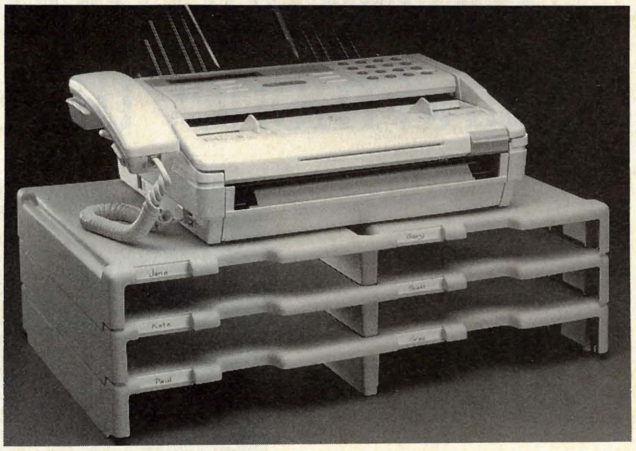
Transport Your Mac. The *MacMover Carrying Case* is designed to transport your Macintosh, Mac Plus, or Mac SE. It's made of sturdy nylon with padded sides and a hardboard bottom, and it includes heavy-duty shoulder straps, zippers, and handles. MacMover carries a complete system, including cables, mouse, disks, and other accessories. $79. From Jensen Tools, Inc., 7815 S. 46th St., Phoenix, AZ 85044; (602) 968-6241.

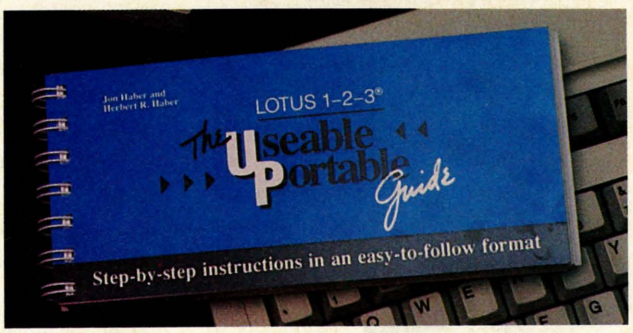
Tilt and Swivel Your Mac. With the sturdy *Maccessories Tilt/Swivel* stand, you have the freedom to move your Macintosh Plus, SE, or SE/30 for better viewing. $35. From Kensington Microware, Inc., 251 Park Ave. S., New York, NY 10010; (800) 535-4242; (212) 475-5200 in New York.

Associate technical editor MARIE ALVICH-LOPINTO *is an office essential at* HOME-OFFICE COMPUTING.



Fax Stax. This modular tray sits beneath your fax machine and holds transmissions (incoming or outgoing), cover sheets, and other supplies. Each Fax Stax contains three, two-compartment shelves. $40. From Curtis Manufacturing Company, Inc., 30 Fitzgerald Dr., Jaffrey, NH 03452; (603) 532-4123.

Walk Away with Confidence. With *SureKey/2*, no one (not even the kids) can disturb your files or work in progress—your computer becomes inaccessible to others while still attending to the task at hand (sorting a large database, for example). When *SureKey/2* is locked, the screen goes blank and the mouse and keyboard are disabled. Plugs into an available serial port. PC and Mac versions available. $350. From Key Concepts, Inc., 316 S. Eddy St., South Bend, IN 46617; (219) 234-4207; (800) 526-6753.



***1-2-3*, Step by Step.** *Lotus 1-2-3: The Useable Portable Guide* is a compact, step-by-step, jargon-free book that covers the basic instructions, functions, and terminology for the most popular spreadsheet program around. A useful quick reference for novices. (Consult an original *1-2-3* user's manual for complete information.) $13 plus $1 for shipping and handling. From Useable Portable Publications, 5 Woodside Rd., Winchester, MA 01890; (617) 729-1943.

They Left out Features....
We Left out the COMMA!!

The only thing missing...

is the comma in the price. If you look at the chart on the right you will see prices charged by our competition. All but one contain a comma. DesignCAD 3D sells for $399.00. Period. No Comma!

In order to draw the complex pictures shown below it is desirable to have the following 3D features:

- **Interactive design with 3D cursor**
- **Blending of surfaces**
- **Boolean operations such as add, subtract, and intersection**
- **Complex extrusions**
- **Cross sectioning**
- **Block scaling**
- **On screen shading**
- **Shaded output to printers and plotters**

All of these competitors left out one or more of these desirable features in their standard package. They didn't forget the most horrible feature - the comma.

DesignCAD 3D offers **ALL** the listed features plus many more!

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PC MAGAZINE SAYS...

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$399

AutoCAD rel. 10	$3,000.00	AutoCAD AEC $1,000.00 AutoShade $500.00
CADKEY 3.12	$ 3,195.00	Solids $995.00 IGES translator $1,995.00
DataCAD with DC Modeler	$ 3,990.00	DataCAD Velocity $2,000.00
DesignCAD 3D ver. 2.0	**$ 399.00**	**NO expensive options! IGES Free, Shading Free**
MaxxiCAD 1.02	$ 1,895.00	N/A
Mega Model	$ 995.00	MegaDraw $195, List $295, MegaShade $395
MicroStation PC 3.0	$ 3,300.00	Customer Support Libraries $1,000.00
ModelMate Plus 2.8	$ 1,495.00	N/A
VersaCAD Design 5.4	$ 2,995.00	N/A

Source: Byte Magazine

BYTE MAGAZINE SAYS...

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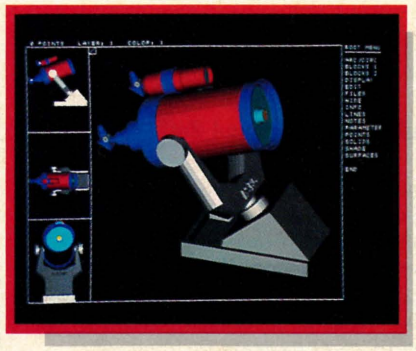
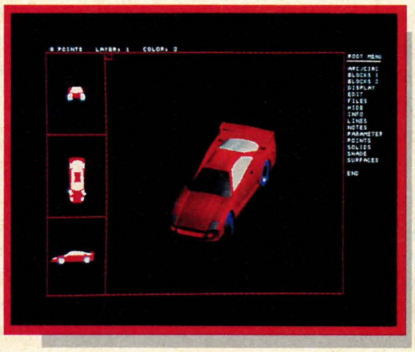
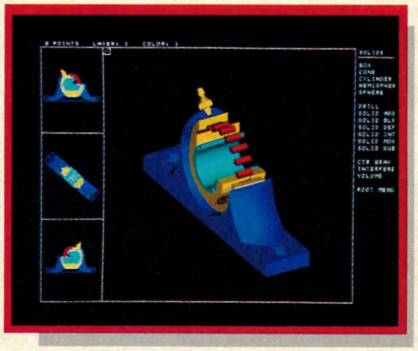
Complete 3-Dimensional design features make it easy for you to construct realistic 3-D models. With full solid-object modeling capabilities you can analyze your drawing to determine the volume, surface area or even center of gravity! DesignCAD 3-D even permits you to check for interference between objects! Aeronautical Engineers can now find the center of gravity for a new airplane design with a couple of keystrokes. The Architect can determine the surface area of a roof for decking in a matter of minutes. The Civil Engineer can calculate the volume of a lake or dam in seconds. The Mechanical Engineer will know for sure if certain parts fit together without interference. The uses for DesignCAD 3-D are only limited by YOUR imagination!







HOW DO I GET ONE?

DesignCAD 3-D and DesignCAD 2D are available from most retail computer stores, or you may order directly from us. If you have questions about which program to purchase please give us a call. All you need to run DesignCAD 3-D is an IBM PC or compatible computer with 640 K RAM memory and a hard disk. Both products support most graphics cards, printers, plotters and digitizers. Free Information and a demo disk are available by faxing (918) 825-6359 or telephoning:

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New Cordless Phones Are Smarter Than Ever: Now They Take Messages

BY STEPHEN MILLER

About Our Reviews and Ratings

Every month we take an in-depth look at new computers, computer peripherals, and other home-office hardware, such as fax machines, telephones, and copiers. We concentrate on products we believe will be valuable to our readers—productive tools for the home- or small-business environment.

Each product is evaluated on its performance, features, documentation, setup, ease of learning and use, versatility, availability, warranty, support, and value. HOME-OFFICE COMPUTING*'s technical editors then assign an overall rating on a scale of zero to four stars:*

○	*Poor*
★	*Fair*
★★	*Good*
★★★	*Very Good*
★★★★	*Excellent*

These ratings also reflect extensive use and testing of the equipment by our expert reviewers working in their own home offices.

ABOUT THIS MINIGUIDE

In this guide we look at the first cordless telephones with built-in answering machines to hit the market. Each unit is from a well-known, reputable telephone manufacturer.

STEPHEN MILLER *works from his home office in Brooklyn, New York. He regularly reviews hardware for* HOME-OFFICE COMPUTING.

Three Models with Built-In Answering Machines

At one time or another you've probably wished that your telephone cord was just a little bit longer. Maybe you wanted to get to the filing cabinet to grab a document you were discussing or answer the door before the UPS person left with your package. With so many reliable, static-free cordless telephones available, there's no reason to be constrained by the length of a cord.

Cordless phones aren't exactly news, you say? Maybe not, but new cordless models have arrived—with built-in answering machines. When combined with cordless phones, answering machines can save you money and space. There's really no need to buy both a cordless phone *and* an answering machine if you can have them both rolled into one convenient package. Separate units waste desk space anyway. Let's take a quick look at the two components of this long-awaited device and see what features you can and can't live without.

The Cordless Telephone. A cordless phone's handset should be comfortable to hold both in your hand and against your ear. The phone should also have good sound quality. Ideally, there should be no static, except when the handset goes beyond the manufacturer's recommended maximum range from the base. And once charged (which takes 12 hours), the phone should allow a full day's use before needing a recharge.

Cordless phones used to be plagued by interference from other cordless phones. For example, anyone with a handset could make a call from any responding base unit within range. Most units on the market today employ a digital security system to protect against this interference. The system transmits signals or codes between the base and the handset. These codes must match before a call can be made. I find security systems that automatically assign a new code every time you place the handset back in the base to be better than units that require you to set the security code manually.

The Answering Machine. For cordless phones with answering machines, it would be beneficial to have the answering machine controls on the handset as well as on the base. This allows you to check messages via the handset—without being in the vicinity of the base. Call screening lets you monitor incoming calls through the handset so you can answer the phone at your discretion. It actually interrupts the answering machine and allows you to take the call.

Although all of the units we review in this guide use a single microcassette for both outgoing and incoming messages, I prefer answering systems that record your outgoing message on a microchip or that use two cassette tapes (one for outgoing messages and one for incoming messages). On a single tape system, the first section of the cassette is used for the outgoing message and the latter portion is used for the incoming messages. Callers have to wait until the tape is fast-forwarded to a blank space before leaving a message. If you have a lot of messages, callers have to wait a long time.

You should also be able to perform all answering machine functions from a remote touch-tone phone, including recording a new

See page 79 for product information.

outgoing message, rewinding and fast-forwarding the tape, and saving and erasing messages. With beeperless remote control, you're never more than a phone call away from your office.

A personal-memo feature can make your life easier and your business more efficient. It allows you to leave private messages for any person (a spouse or business partner, for example) who has a special access code.

If a cordless telephone with a built-in answering machine is what you're looking for, review the accompanying chart for details and evaluations of the three models introduced.

Three Cordless Phones with Built-In Answering Machines: A Side-by-Side Comparison

Cobra AN 8521

Code-A-Phone 7210

PhoneMate 1850

If you *do* decide to go shopping for one of these phones, you're likely to find one of the models reviewed below. All three use a single microcassette to record both incoming and outgoing messages, and they'll need 12 hours to charge before initial use.

	Cobra AN 8521	Code-A-Phone 7210	PhoneMate 1850
Phone Number	(312) 889-8870	(503) 655-8940	(213) 618-9910
Rating	★ ★ ★	★ ★	★ ★ ★ ★
List Price	$200	$150	$220
Maximum Range	1,000 feet	1,000 feet	1,000 feet
All Base-Unit Controls Duplicated on Handset	No	No	Yes
Security Coding	Manually set	Manually set	Automatically set
Message Retrieval	Base, Remote	Base, Remote	Base, Handset, Remote
Personal Memo	Yes	No	Yes
Call Screening	Yes	Yes	Yes
Toll-Free Support	Yes	No	Yes
Dimensions	8.25 by 8.5 by 2.5 inches	6.7 by 9.4 by 3 inches	8.7 by 9.3 by 2.1 inches
Warranty	One year	One year	One year
Other Features	Redial, flash, 9-number autodialer	Redial, flash, pause	Out-of-range alarm, redial, flash, pause, mute, 9-number autodialer
Minireview	A very good phone with all the basics and just enough extras to make it a good buy. The user's guide is slim but well written, making setup a breeze. Selecting your private security code (from four settings) can be tricky though. Sound quality is excellent, even at a good distance from the base—I was able to walk nearly half a block from my sixth-floor apartment before the phone developed uncontrollable static. A toll-free number for technical support is available, but all I ever got was a busy signal.	A basic, few-frills unit that has excellent clarity away from the base. The documentation is quite good considering how short it is. Includes a good troubleshooting guide. Two buttons on the base, ANN and MESSAGES, handle all of the answering machine functions. The remote control functions are simple to operate, but you cannot remotely rerecord your outgoing message or leave or retrieve personal memos. A low-battery indicator light reminds you to recharge the handset. If all you need is a basic answering machine with the flexibility of a cordless phone, this is a good choice.	A top-of-the-line system with sexy high-tech styling. Excellent sound quality, even at maximum range. Well-written user's guide is complete, organized, and easy-to-read. There's no index, but the table of contents should suffice. Even with its long list of features, this unit is simple to use. All base-unit controls are duplicated on the handset. Excellent value. Its performance and multitude of features are well worth the price.

A New, Faster 386SX, a Sturdy, Feature-Packed Fax, and Two Laser-Quality Printers

Dell Offers Latest, Speediest 386SX

Dell System 320LX

Rating: ★ ★ ★

AT A GLANCE: The first 20-MHz 386SX on the market, the System 320LX is well built and nearly as fast as a high-performance 386DX.
DOCUMENTATION: Outstandingly thorough and well illustrated.
SETUP: Practically none required.
VALUE: Very good.
SUPPORT: Sales and technical-support staffs are knowledgeable and helpful.

LIST PRICE: $3,299 (includes 1MB of RAM, VGA color display, 40MB hard-disk drive, and DOS 3.3)

MANUFACTURER: Dell Computer Corp., 9505 Arboretum Blvd., Austin, TX 78759-7299; (512) 338-4400

MICROPROCESSOR: Intel 80386SX (20 MHz)

MEMORY: 1MB expandable to 8MB on the motherboard.

DISK DRIVES: One 5.25-inch, 1.2MB or one 3.5-inch, 1.44MB floppy-disk drive; 40MB hard-disk drive with 28-ms access time

PORTS: One parallel, two serial

FREE EXPANSION SLOTS: Five 16-bit, two 8-bit

SOFTWARE INCLUDED: Tutorial, diagnostics, and troubleshooting; LIM 4.0 support; 16-bit VGA utilities

DIMENSIONS: 21.1 by 17.6 by 6.4 inches

WARRANTY: One year (with on-site service)

Dell Computer's new System 320LX occupies, for the moment, a unique position in the PC world: It is the first computer to incorporate an Intel 80386SX microprocessor running at 20 MHz. No, it's not a 16-MHz 386SX pushed to run beyond its rated limit; this is a genuine 20-MHz chip. The extra speed of this low-cost 386 solution should be appealing to would-be SX buyers.

The review unit came with a Seagate 40MB, 29-ms IDE hard-disk drive. I found that the system's performance seemed slower than that of my own computer, a Dell System 310 with a 20-MHz 386DX processor and an 18-ms ESDI hard drive. I ran the Norton Speed Index and confirmed my impression: The 320LX is 10 to 15 percent

Dell's new System 320LX leaves other SXs in the dust.

slower. Its slower hard-disk drive accounted for part of the speed difference (of course, faster drives are available from Dell). The 320LX's processing is also hampered by the absence of a high-speed memory cache, a feature that the 310 incorporates.

The system operated flawlessly, with the exception of the Dell Super VGA color monitor. The image bowed out to the sides prominently at the top of the screen—an annoying distortion. Dell promptly replaced that monitor with a new unit (the same model), which had much less distortion but was slightly out of register, causing text to appear fuzzy. A Dell representative told me that this monitor, manufactured to Dell's specifications by NEC, had been temporarily discontinued because of the number of reported problems.

Aside from the monitor problems, I could find nothing about the 320LX to criticize. Inside, the computer is neatly constructed with plenty of expansion slots (seven are available) and a hefty (230-watt) power supply to service all the peripherals you might fill them up with.

The keyboard, manufactured for Dell by Keytronics, had a slightly mushy feel but was no worse than many other generic keyboards I have used. I had no trouble getting used to it.

If buying a system through the mail (the only way Dell sells them) makes you nervous, it shouldn't: Dell packs its systems to death so they arrive damage-free. I found both the sales and technical-support staffs knowledgeable and helpful. Dell has a toll-free number for support, and it's easy to get through when you have questions.

The Dell 320LX proved a reliable and well-built system; with its 386SX microprocessor, it will run virtually all the software that's likely to be available for the next several years. The price differential between this system and Dell's 20-MHz 386DX-based system is about $600. While there will be users who (with good reason) will opt for the higher price and higher performance of a 386DX-based system, the 320LX provides the budget-minded with a way to get their jobs done faster than ever before.

—EVA J. BLINDER

Fine Fax That's Built To Last

Okifax 500

RATING: ★ ★ ★

AT A GLANCE: A sturdy fax machine with lots of features. One drawback: no memory.
DOCUMENTATION: Very good; easy to understand.
SETUP: Simple and straightforward.
EASE OF USE: Worked well; no problems.
VALUE: Good for this feature-filled unit.
SUPPORT: Pleasant and helpful.

LIST PRICE: $1,399

MANUFACTURER: Okidata, 532 Fellowship Rd., Mount Laurel, NJ 08054; (609) 235-2600

COMPATIBILITY: Group 3

RESOLUTION: Standard (203 by 98 dots per inch [dpi]); fine (203 by 196 dpi)

GRAY SCALE: 16 levels

MAXIMUM SCANNING WIDTH: 8.5 inches

RECORDING PAPER LENGTH: 164 feet

MAXIMUM TRANSMISSION SPEED: 9600 bits per second

FEATURES: Polling, delayed transmission, 10-page automatic document feeder, automatic paper cutter, 30-number autodialer (fax or voice), remote operation

DIMENSIONS: 13 by 12.2 by 5.7 inches

WARRANTY: One year

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The Okifax 500 is a sturdy, full-featured fax machine.

The Okifax 500 doesn't have the sleek, streamlined look of many of its competitors; it has a rather stocky, solid appearance. The controls are sturdy and designed for average-size hands (there are no dainty buttons fit for children's little fingers). The phone cradle is made of metal and the rest of the unit is encased in hard plastic. The Okifax 500 looks like it could withstand some pretty rough treatment.

The Okifax 500 has many features we've come to expect in today's fax machine: an automatic document feeder, an automatic paper cutter, polling, delayed transmission, and remote operation. But the one feature that's noticeably missing from the Okifax 500 is memory. Having the ability to store documents in memory (whether they're outgoing or incoming) is a feature that can prove very beneficial.

Short of that, the Okifax 500 is a good, sturdy fax machine that I truly like. I was impressed with its design and performance. It deserves a look. —STEPHEN MILLER

Ink-Jet Printer Is Swift, Silent

Canon BJ-130e Bubble Jet

Rating: ★ ★ ★

AT A GLANCE: Fine, quiet, wide-carriage text and graphics printer. Canon's ink doesn't smear (some others do). Text quality is noticeably better than 24-pin impact dot-matrix output—almost as good as laser print.
DOCUMENTATION: Thorough and well illustrated.
SETUP: Practically nothing to it.
EASE OF USE: Simple; no problems here.
VALUE: A bargain at street price.
SUPPORT: Knowledgeable and helpful.

LIST PRICE: $1,095

MANUFACTURER: Canon U.S.A., Inc., Information Systems Division, One Canon Plaza, Lake Success, NY 11042; (516) 488-6700

HARDWARE REQUIREMENTS: MS-DOS computer with parallel port and cable

EMULATION: IBM Proprinter XL24E

INTERFACE: Centronics parallel

PRINT SPEED (AT 10 CHARACTERS PER INCH [CPI]): Draft, 240 characters per second (cps); Letter quality, 110 cps

BUILT-IN TYPEFACES: Courier, Gothic, printing at 10, 12, or 17 cpi or proportional spacing

PAPER HANDLING: Automatic sheet feeder, 100-sheet capacity

PAPER WIDTH: 7 to 14.2 inches with automatic sheet feeder; 7 to 16.4 inches manual

BUFFER: 48K with 16K reserved for downloaded soft fonts or 8K with 56K reserved for soft fonts

OPTIONS: Tractor feed ($65); Nine downloadable soft fonts (price not available)

DIMENSIONS: 24 by 14.3 by 5.4 inches

WARRANTY: One year

The BJ-130e Bubble Jet, Canon's recently enhanced thermal ink-jet printer, is well worth investigating—if you're looking for outstanding print quality, efficient performance, and soothingly quiet operation at an affordable price.

Like other ink-jet printers, the BJ-130e builds its printed images by firing tiny dots of ink onto the paper. One problem with some ink-jet printers is that they use water-soluble inks, which smear when they get wet; but Canon's specially formulated ink doesn't run. The real story with the Bubble Jet, however, is print quality: In letter-quality mode, the Bubble Jet prints at a resolution of 360 dots per inch (dpi); the resulting text is almost comparable to that produced by a 300-dpi laser printer. It is certainly several cuts above the output of even the highest-quality impact dot-matrix printer.

The BJ-130e prints at 240 characters per second (cps) in draft mode and 110 cps in letter-quality mode, making it substantially faster than most contemporary 24-pin dot-matrix printers. (These are Canon's published speed ratings; actual performance, as with all printers, is substantially slower.) And this system is quiet. All you'll hear is a gentle whirring sound as the print head moves across the page.

In addition to the resident typefaces, the printer is set up to use downloadable soft fonts and has memory allotted for this purpose. The BJ-130e emulates the IBM Proprinter XL24E, which means that most DOS software known to mankind supports it. The Proprinter emulation also enables the machine to print bit-mapped graphics, which come out clear and crisp.

The Bubble Jet's built-in automatic sheet feeder, which holds up to 100 sheets of paper at a time, worked flawlessly. It reliably handled my heavy, textured bond letterhead as well as normal typing paper. An optional tractor-feed unit is available for those whose work calls for continuous-form paper. (Incidentally, like a laser printer, an ink-jet printer is useless for multipart forms. There's no impact to transfer the image through to the copies.)

In addition to producing excellent output—both text and graphics—the BJ-130e is as easy to set up as any printer I've ever seen. The user's manuals are easy to read, understand, and navigate. And—I have to mention it again—this printer is *quiet*! Assuming that you can find a good discount (say, 30 percent off the list price of $1,095), you'll get a fine printer at a reasonable price. I hesitate to give the handsome, versatile Bubble Jet four stars only because for $200 to $300 more (we're talking street price here), you can now buy a high-quality personal laser printer. —FRAN CHESLEIGH

REVIEWED IN THIS ISSUE

Computer:
Dell System 320LX
Laser Printer:
Packard-Bell PB9500
Ink-Jet Printer:
Canon BJ-130e Bubble Jet
Fax Machine:
Okifax 500
Cordless Phones with Answering Machines:
Cobra AN 8521
Code-A-Phone 7210
PhoneMate 1850

Canon's Bubble Jet gives superior output—and is super quiet.

Abundant RAM Makes Light-Duty Laser a Fair Bargain

Packard-Bell PB9500

Rating: ★ ★

AT A GLANCE: A reliable, medium-speed performer for light-to-medium-duty office printing.
DOCUMENTATION: Covers setup well; troubleshooting material is inadequate.
SETUP: Took about an hour; couldn't be simpler.
EASE OF USE: Straightforward and trouble-free—especially if you have experience with the LaserJet Series II.
VALUE: LaserJet compatibility and 1.5MB standard RAM make this printer a good value at a street price of about $1,350.
SUPPORT: Fair. Courteous, knowledgeable technicians know every inch of the machine but very little about how major applications work with it. Technicians call back within 48 hours of your call—far too slow a response time.

LIST PRICE: $2,195

MANUFACTURER: Packard-Bell Corp., 9425 Canoga Ave., Chatsworth, CA 91311; (818) 773-4400

HARDWARE REQUIREMENTS: Any MS-DOS computer

MAXIMUM PRINT SPEED (TEXT): Six pages per minute

RESIDENT FONTS: Three portrait, three landscape, all fixed-spaced; no scalable fonts included

PAPER HANDLING: 150-sheet input tray; adjustable manual-feed guide for envelopes and single sheets. Side delivery; face-up eject option; switch for thick paper, envelopes, labels, transparencies

PAPER SIZES: Letter, Legal, A4, B5, envelopes

MEMORY: 1.5MB, expandable to 4.5MB

DUTY CYLE: 4,000 pages per month

DIMENSIONS: 15.4 by 16.1 by 8.3 inches

WARRANTY: One year

A generous 1.5MB of RAM, six-page-per-minute output, and a street price that can dip to $1,300 make this LaserJet Series II–compatible printer a solid bet for basic text printing and general office use. However, I would hesitate to recommend the Packard-Bell PB9500 to graphics professionals, direct-mail businesses, and others who need quick computer-to-printer reaction time, maximum print speed, heavy-duty paper handling, and a heavy duty cycle (work-load rating).

Packard Bell launches LaserJet work-alike.

The printer's control panel (very similar to that of the HP LaserJet Series II) uses several buttons and an LCD for setting paper size, font source, page orientation, and the like. Although it's pretty simple, you may have to keep the manual handy the first few times you go through this procedure. Once I had it properly set up, the printer churned out flawless reports with *AccPac, XyWrite, WordPerfect* 5.0, *Ventura,* and *Quicken 3*, using the various software packages' HP LaserJet drivers.

The Packard-Bell's output is crisp. Computer-to-printer reaction time (the time before the first page starts printing), however, is slow. Paper-feeding is quite reliable: I didn't have a single jam during 2,500 pages of test printing. But I would have liked a more capacious paper tray—this one holds only 150 sheets.

Packard-Bell's technical support is well-informed and courteous, but getting a response to a problem can take as long as two days—not a great feeling when you're on deadline. By the time a technician called me back about the paper-insertion error and settings for envelope printing, the first problem had fixed itself and XyQuest's tech support had helped me format a *XyWrite* envelope-printing file. If Packard-Bell's technical support were more readily accessible, the PB9500's skimpy manual would be less of a problem. As it stands, however, if you are unfamiliar with laser printers, the manual is not much help beyond unpacking and setup. It covers the printer's essential specifications, but its tone is technical and likely to be incomprehensible to the uninitiated.

But should you buy this Packard-Bell laser instead of an HP LaserJet III or another laser printer? Considering that the LaserJet III (a state-of-the-art, eight-page-per-minute printer with a selection of scalable fonts) lists for only $200 more, you'd have to be getting a sensational deal on the Packard-Bell for it to be a sensible buy. Which is not to say you won't. Even so, if your bread and butter is desktop-publishing or CAD applications, you'll probably want to invest in a faster, more substantial laser printer.

—CHARLOTTE PIERCE

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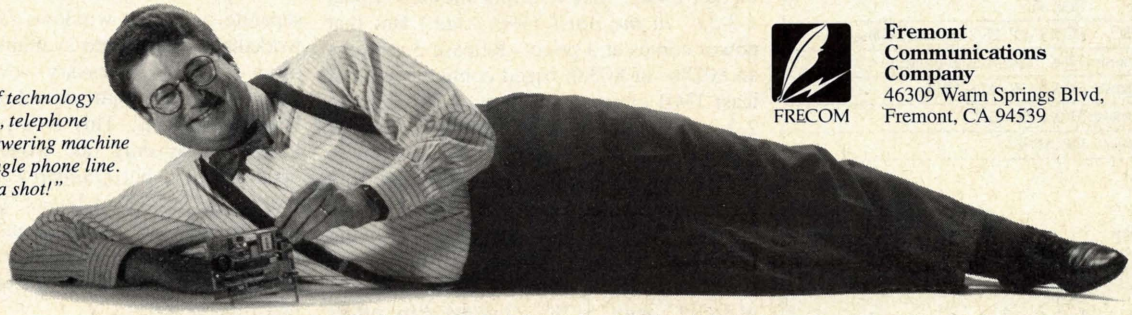


Paul Masters, UC Berkeley MBA and Northern Telcom alum, is President of Fremont Communications

CIRCLE READER SERVICE 36

MS-DOS Basics: Spreadsheet, Database, Word Processor

Plus—Mac Paint and Animation Program

About Software Reviews

Our software reviews use shorthand to describe several of the details associated with any package. Hardware, software, and memory are required unless noted as "recommended" or "optional." When more than one computer is listed under "System Requirements," the machine marked with an asterisk (*) is the type on which the software was reviewed. Requirements are not listed where obvious (for instance, printers with word processors or modems with communications programs). Operating system requirements, such as MS-DOS or the Macintosh System file, are listed only when they're not the standard minimum requirement (DOS 2.0 for IBM PC or compatibles, System 3.2 for the Macintosh, or ProDOS for the Apple II). For those computer systems that can use both 5.25- and 3.5-inch disks (IBM PC and PS/2 or the Apple II), we've listed only those disk sizes that are either supplied with the software or available at no extra cost from the publisher.

Designation	Models
128K Apple	IIe/IIc/IIGS (in IIe/c mode) and compatibles
128Ke Apple	IIe (enhanced ROM)/IIc/IIGS(in IIe/c mode)
Apple IIGS	IIGS only
IBM PC, PS/2	PC/XT/AT, PS/2 and compatibles
128K Macintosh	128K/512K/512Ke/Plus/SE/II
512K Macintosh	512K/512Ke/Plus/SE/II
512Ke Macintosh	512Ke/Plus/SE/II
1MB Macintosh	Plus/SE/II

Ratings Key

○	*Poor*
★	*Fair*
★★	*Good*
★★★	*Very Good*
★★★★	*Excellent*

One Fine Alternative To 1-2-3

Quattro Pro

Rating: ★ ★ ★ ★

AT A GLANCE: Great value—plenty of spreadsheet power in software that runs on most PCs.
DOCUMENTATION: First rate—simple language, clear examples, terrific organization. Includes great on-screen, context-sensitive help.
ERROR HANDLING: Unable to bomb program—mistakes always clearly labeled.
EASE OF USE: Fine job overall—all features included within main operating mode. However, some inconsistencies.
SUPPORT: Not toll-free—however, Borland tech reps usually first-rate, so good chance of getting a good answer. Also, on-line support.

VERSION REVIEWED: 1.0

PRICE: $495

SYSTEM REQUIREMENTS: 512K IBM PC, PS/2 (640K recommended); hard-disk drive; CGA, EGA, or VGA (EGA or VGA required for full-color capability); mouse recommended; 5.25- or 3.5-inch

PUBLISHER: Borland International, Inc., 1800 Green Hills Rd., Scotts Valley, CA 95066; (408) 438-5300

Lotus *1-2-3* has long been king of the spreadsheet hill; and *1-2-3* Release 3 is, for me, the most powerful spreadsheet on the market today. (*See "Rating the New Lotus 1-2-3s" in the April 1990 issue.*) But that power comes at a price—Release 3 requires an 80286- or 80386-based computer with at least 1MB of memory. Sure, *1-2-3* Release 2.2 is available for 8088 computers, but it's not as good as Release 3. I don't know about you, but I am less than content with second-best when it comes to spreadsheets!

Enter Borland's *Quattro Pro*—a grand upgrade from the publisher's original (and still available) *Quattro*. Needing only a plain PC with 512K, *Quattro Pro* offers many of the same features as *1-2-3* Release 3, including multiple open files, advanced graphics and printing, and virtual memory (swapping program modules to and from disk to maximize the free RAM for data). *Quattro Pro* is also completely compatible with commands, files, and even macros from *1-2-3* Release 2.10 or earlier, so you won't lose your investment in Lotus training and worksheets.

Eeny, meeny, menu. You run the spreadsheet from one of three alternate menu displays: one, *Quattro Pro*'s Macintosh-style system with pull-down menus that cascade as you select options; two, a *1-2-3* look-alike (with additional *Quattro* commands clearly noted); and three, the pop-up vertical menu used in earlier versions of *Quattro*.

Even though I am very familiar with the *1-2-3* menu system, I quickly moved to the standard *Quattro* menu (menu displays can easily be changed while the program is running), since I found it easier and faster to use. The menu you use, however, affects *Quattro* and *1-2-3* macro compatibility.

Improving on the standard. All commands are available from the main menu (which isn't true for Release 2.2), including ones for printing graphs and maintaining files. And *Quattro Pro*'s file handling impressed me greatly, letting me freely scan my drive's directory tree to move, copy, rename, and delete files.

An even greater improvement is the ability to open more than one file at a time in separate on-screen windows (as long as the worksheets can fit into available memory). I often find it necessary—even advantageous—to work with several small, interrelated worksheets. This is a pain with Release 2.2, as only one worksheet can be open at once, but *Quattro Pro* makes it a breeze. As an added bonus, *Quattro* saves my favorite file combinations as a single *workspace* file. Opening a workspace file brings all the associated files up together—a real time-saver.

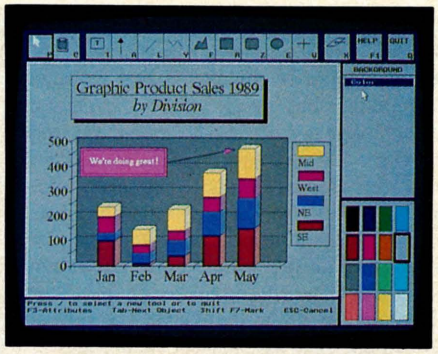
Once I start working with multiple files, I want to pass data between them automatical-

See page 79 for product information.

ly. Release 2.2 lets me pass data through linking formulas, and so does *Quattro Pro*—but it goes one step further and uses the linked data directly in formulas. Let's say I have five files that track sales by location, and I want to consolidate them to get total sales. In Release 2.2, the total sales file has to read the sales from each location file into separate spreadsheet areas, then use formulas to add them up. That's pretty slick, but the consolidated file becomes fairly big in the process.

With *Quattro Pro*, I simply create a consolidated total sales file that's formatted identically to the location files. The consolidation then uses a formula to directly add up the data in the location files. This is much neater and simpler, and because I can have multiple files open, I build the formulas by pointing, a technique that saves time and increases accuracy.

Graphing. You create a graph with either *1-2-3* or *Quattro Pro* in one of two similar ways: You pick a graph type, select a block of cells (including labels), and then use the Fast Graph option; or you build a graph item by item by selecting up to six individual ranges on your worksheet. *Quattro Pro*, though, offers twice the number of basic graph types as *1-2-3*, so you can create area graphs, horizontal bar charts, column charts, hi-lo graphs, and text charts.



Quattro Pro *lets you run the spreadsheet from one of three alternate menu displays, including one that emulates Lotus* 1-2-3.

Quattro Pro graphs are attractive, too, and close to Macintosh quality. A *1-2-3* graph would have to be modified with *Graphwriter* or *Freelance* to be as attractive. And once the basic graph is complete, *Quattro Pro* offers a number of enhancements unavailable in Release 2.2. For instance, Graph Annotate lets me add text in a variety of fonts and styles, draw shapes, change colors, even import artwork (logos, scanned pictures, and so on) to add professional polish to graphs.

Database worksheets. Many people find a spreadsheet's list-management features convenient to sort, search, and analyze moderate amounts of data. *Quattro Pro* has the same features as Release 2.2 plus a big extra—the ability to use *dBase*, *Paradox*, and *Reflex* database files as if the data were in your spreadsheet.

Database programs typically track details like customer orders, because they can deal with a large number of entries. But you might want to analyze orders over $500 or from a particular salesperson, and a spreadsheet is a good way to do that. With *Quattro Pro*, as long as you know the field names used in the original database files, you extract the information from the main file right into your spreadsheet.

Macros. A macro is a stored series of commands. When activated, the commands are executed rapidly, much faster than could be done by hand.

It is rare for macros to be compatible with different spreadsheet programs—one major reason why macro users hate to change software. *Quattro Pro* macros are, however, compatible with *1-2-3* if you use the *1-2-3* menu option and "keystroke logic."

All *1-2-3* macros are keystroke equivalents, literally a written record of the keys you would press to carry out a set of commands (plus some additional commands that control the flow of macro operation). But

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native *Quattro* macros are more sophisticated. Instead of being keystroke equivalents, they use *functional* logic that calls up the same program operation no matter which menu you are using.

So if you like to swap macros from *1-2-3* spreadsheets, you must stick with *Quattro Pro*'s *1-2-3* menu and keystroke logic to ensure compatibility. Since I found the *Quattro* menu and functional logic preferable, this imposes a limitation. (You can convert *1-2-3* macros to functional logic by rerecording them in functional mode.)

Also, *Quattro Pro*'s macro editing facilities are more complete than *1-2-3*'s, with a flexible debugging mode that can be turned on and off within the macro, trace cells that record what is happening, and the ability to edit macro text without leaving the debugging mode. Macro lovers will find much to enjoy in *Quattro Pro*.

Printing. *Quattro Pro* supports laser-printer cartridge fonts, PostScript fonts, and Bitstream fonts. However, while the highest-quality printing produces attractive fonts, it slows down both printing and working, since the program builds whatever font sizes and styles it needs as it prints. This isn't too annoying on an AT, but on an XT it seems endless, especially since you need a set of fonts for the screen *and* a set of the same fonts optimized for printing.

You can delay font building by staying in draft-quality mode until print time, but it has to happen sometime. As you collect the sizes and styles you use most frequently, though, these delays will pretty much disappear (though printing is still slow). You can have your computer build a set of fonts during the installation process, and I suggest choosing that option.

Speed is much better either at lower resolutions using the text mode for printing, or with dot-matrix printers. I got some very striking and more-than-acceptable results with a beat-up old Epson MX-80; a modern 24-pin unit should be even better.

Complaint department. In general, *Quattro Pro* is terrific software, offering considerably more convenience and features than *1-2-3* Release 2.2 at the same price. Unfortunately, its flaws are as visible as a wart on a witch's nose, and for some people these shortcomings will be important.

I just talked about the slow printing and how long it takes to build fonts (not to mention the disk space—fonts are why Borland recommends an additional 1MB of disk space). When you have a deadline to meet, you don't want to sit around waiting for a new font to get built or for a page of graphics to inch its way out of your laser printer.

There are some rough edges, too. The mouse interface was a bit sluggish and imprecise (I found myself—an avid Macintosh user—reverting to the keyboard). The program somehow puts my turbo-XT in low speed when it loads, so I must remember to manually speed it up, or I really crawl along. Many, but not all, of the drop-down menus have a quit option to return you to a prior menu. And pressing Escape to back up sometimes dropped me out of a menu altogether when that was not my intention. This lack of operating consistency annoyed me and makes *Quattro Pro* harder to learn than it should be.

How good is it? There's little that differs between the basic spreadsheet capabilities of *Quattro Pro* and *1-2-3* Release 2.2—for the most part I could not choose one over the other based on spreadsheet functionality.

Despite problems with print speed, *Quattro Pro* is a solid performer (if it were faster, I'd rank it nearly even with *1-2-3* Release 3). *Quattro* works the way a spreadsheet should work.

Quattro Pro is an excellent value. Period. I intend to switch from *1-2-3* Release 2.2, and I'd guess that many other *1-2-3* users will also. *Quattro Pro* gives you a lot for your money, and that's the very definition of value. —CHARLES. H. GAJEWAY

Arrange Data Innovatively

Nutshell Plus

Rating: ★ ★ ★

AT A GLANCE: Well designed; displays and prints out information from separate databases.

DOCUMENTATION: Could be much better; specific step-by-step explanations for complex features not included.

ERROR HANDLING: Very good—except for the time the tutorial froze.

EASE OF USE: Logical commands make creating databases and entering information easy. Not perfect, though, with awkward keystrokes for moving through menus.

SUPPORT: Helpful, courteous, accurate. Could only wish for toll-free number.

VERSION REVIEWED: 1.0

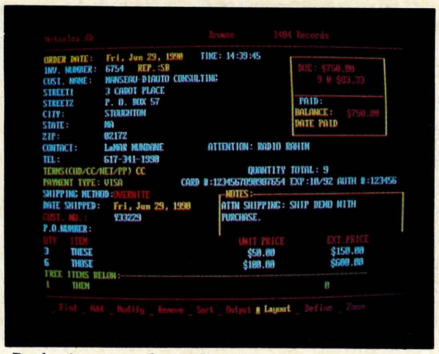
PRICE: $295

SYSTEM REQUIREMENTS: 384K IBM PC, PS/2; two drives recommended; 5.25- or 3.5-inch

PUBLISHER: Iris Software Products, P.O. Box 57, 3 Cabot Pl., Stoughton, MA 02072; (617) 341-1969, (617) 341-1990

Nutshell Plus is the latest generation in the *Nutshell* family of databases. Its chief claim to fame is that it lets you link multiple files through identical fields in each file. Once files are linked you can display and print their contents together, giving you a relational database's power to manipulate data combined with a file manager's ease of use.

Defining the database (that is, deciding on field names and field types) went fairly smoothly. However, I was slowed down because it's not possible to format a field or change the field length while in the define



By letting you share data in two separate files, Nutshell Plus *gives you greater control over your database information.*

process. Instead, you must leave the define screen and enter the layout screen, where you can change your field format. Not being able to format a field for dollars and cents, for example, or shorten the State field to two characters while in the define screen, made my job last a little longer than necessary.

For my test databases, I created three files: Client (to track business name, owner/manager, address, and other personal data), Invoice (for specific invoice charges assessed by each client), and Inventory (for listing the description, inventory part number, and price of each of my stock items). After typing in some data, I realized the Client file needed a unique field to serve as the link between it and the Invoice file. I decided to create a field in which an identification number could be assigned to each client (in another context, you might want to use a person's Social Security number or a company's federal I.D. number).

For the Client I.D. field, I implemented *Nutshell*'s verification feature, which checks whether or not information in a particular field is unique. This feature guarantees that none of my clients' I.D. numbers would be duplicated—and therefore, that none of their invoice information would become jumbled. On the Business Credit Rating field, I used the List validation feature, which let me enter only characters from a predefined list; on the Business Size field, I chose Range validation, which restricts me from entering characters that are not part of a predefined range. (For my range I used 1 through 5, with 1 representing a "mom and pop" operation and 5 a large chain store.) Nicely enough, if, during data entry, you forget what's in your list or range, a menu option will pop it up on-screen.

A *Nutshell Plus* field can be text, numbers, a calculation, a date, or a summary. Calculation fields operate on data only within the record, while summary fields (which can be designated Total, Average, or Count) operate on one field throughout all the records in a file. In my example, I used a calculation field to figure the total spent by

one client on a single invoice (an amount totaled within a record) and a summary field to average the amount spent by all clients.

So I linked the Client and Invoice files by setting up a Client I.D. field in each file and telling *Nutshell* about the link. Now I could include information from other fields in the Client file in my Invoice records. As I entered a new Invoice record, the included information (in this case the owner name, business name, and address fields in the Client file) was automatically updated to match the Client I.D. field. This feature is a tremendous time-saver, especially if there are people with whom you have regular transactions.

After a link has been set up, you can *zoom* from the file that is your active, or base, file (in this example the Invoice file) to the linked, or lookup, file (in this example the Client file). Zooming lets you view all the data in a linked file—very helpful if you need to know something other than the information that you've linked to the active file. And once you've zoomed to the lookup file, you can even edit it.

However, linking the Invoice and Inventory files so that the description and price of a product appeared automatically when I entered a product number proved more difficult, because this process uses numerous, more complex links between files. Although the manual tells you that you *can* do this (several times, in fact), nowhere does it show you exactly *how*. After many fruitless hours in front of the computer, I finally succeeded. The most memorable quote from tech support during this excruciating process was "Yeah, the manual's kinda vague on that."

On other questions, support was a pleasant surprise. Although it took several tries to get through to their non-toll-free number, once I reached a technician, he or she tried to be helpful and was always cheerful and polite. I explained my trouble in getting a field to calculate. When the technician and I were unable to reach a conclusion over the phone, the technician, without any prompting on my part, requested that I send my files and data to him, so he could review the problem. (He, of course, didn't know I was a reviewer.)

Nutshell Plus's report facility summarizes information in groups of records through the use of devices called partitions (similar to break fields or row types in other database programs). For example, once my data is sorted correctly, I can print a report that subtotals the amount of inventory sold each day and also adds the amounts together for a monthly grand total at the end.

For all of *Nutshell Plus*'s useful features, I had several small problems. For instance, you operate the program by moving the cursor through various menu levels, or you can type each menu command's first letter instead. However, *Nutshell Plus* delivers an unwieldy twist to this standard menu mechanism: You must always press the F2 key to move to the next menu level. This means that, for example, to format a field, you press F2 to activate the menu, then press L for Layout. Now the Layout menu, including the Format command, appears along the bottom of the screen. At this point, instead of intuitively pressing the F key for Format, you must *again* press F2 to reactivate the menu—only then can you press F for Format. This routine made for confusion until I got used to it—and even so, I never did like it. (At least pressing the wrong key, or typing the wrong kind of information, produces a beep and a straightforward error message.)

Also, the Guided Tour tutorial began inauspiciously—it froze at the opening screen. Undaunted, I pressed various keys until the program resumed. (However, a novice user might get intimidated, not guessing that such an unrefined approach sometimes works.)

As noted above, the documentation

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proved to be less easy to use than I had hoped. Unfortunately, in most cases the manual just tells how to use a feature instead of showing by example. I feel it is imperative that a manual provide walk-through specifics, complete with numbered steps and illustrated figures. Although the manual contains instances of action steps placed next to a figure that is supposed to represent the completed action, the steps are generic, while the figure is specific. And include a quick-reference card, for those of us who hate to thumb through manuals.

Despite these shortcomings, *Nutshell Plus* is a flexible and worthwhile database. The program's ability to link files in order to share information between databases was extremely well received in this quarter. *Nutshell Plus* let me organize information in innovative arrangements. And who knows, when you're able to approach your data in unprecedented ways, you might very well find the information mixture that will take your small business into the nineties.

—LYNNE FREY

Latest Model of an Old-Time Word Processor

MultiMate

Rating: ★ ★

AT A GLANCE: Lots of word-processing capability, but cumbersome and slow, with cluttered editing screen.

DOCUMENTATION: Professionally designed, well illustrated, detailed; separate tutorial manual and disk; keyboard overlay and reference card.

ERROR HANDLING: Seems well protected against crashes; error messages accompanied by beep, but not always clear.

EASE OF USE: Basics easy, more complex operations less so. On-line help not as well designed as many similar programs.

SUPPORT: Very good to excellent—extraordinary range of support services, some free, some overpriced.

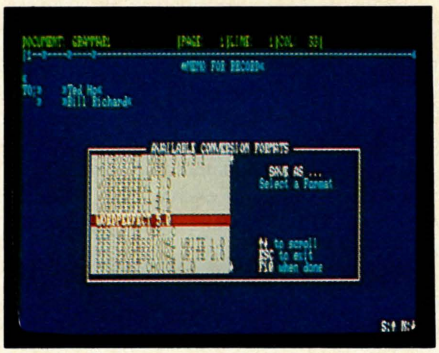
VERSION REVIEWED: 4.0

PRICE: $565

SYSTEM REQUIREMENTS: 384K IBM PC, PS/2; hard-disk drive; CGA, EGA, VGA, or Hercules (color required for preview); DOS 3.1 or higher; 5.25- and 3.5-inch

PUBLISHER: Ashton-Tate Corp., 20101 Hamilton Ave., Torrance, CA 90502; (213) 329-8000

There was a time when programmers prided themselves on cramming lots of features into the smallest possible space. Ha! If you've bought any of the big applications lately (word processing, data management, spreadsheet), you probably think that the days of parsimonious programming are done. Ashton-Tate's most recent contribution to humongosity is *MultiMate* 4.0, which comes on 23 (not a misprint) 5.25-inch floppies. You'll need 6MB or more of hard-disk space, depending on how much of this program you make use of. If you use everything, you'll have an entire document-preparation office (including telecommunications) under one roof.



A MultiMate *strength—importing and exporting document files formatted for other word processors*

My impression is that Ashton-Tate looked carefully at the competition and decided to top 'em all—and add a little to boot. The publisher's idea of what it takes to do this, however, isn't mine. While *MultiMate* 4.0 reminds me of a Rolls Royce tractor-trailer, it's not the word processor to end all word processors. If serious desktop publishing is on your agenda, for example, you're going to hate *MultiMate*. If you're already comfortable with the *MultiMate* philosophy from earlier versions (or Wang word processing), or you are ready to graduate from a small-scale word processor, then read on to find out what *MultiMate* has to offer. Let me say right up front, however, that there's no reason for *WordPerfect*, Microsoft *Word*, *XyWrite*, or *Nota Bene* folks to consider switching.

The more I explore *MultiMate*'s seemingly endless catalog of features and functions, the more I find that its menu system quickly becomes intrusive and time-consuming. The main menu leads to submenus, which lead to other menus, almost, it seems, ad infinitum. There are a few shortcut keys, but still . . . what's going on here is a clash of word-processing philosophies, and I realize that if you start your word-processing career with *MultiMate*, you'll probably love it. (The baby-duck effect.)

OK, so I'm keyboarding away and I want to find a synonym. Good—*MultiMate* comes with a thesaurus, but getting it to produce requires more effort than most others I've used. After trotting through the pull-down menus to get to the thesaurus (which you can reach with a shortcut), I press the right key, which highlights the word at the cursor that I want a synonym for—but instead of an immediate list of synonyms, the program says, "Look up what?" What's the point of this extra step? The word is already highlighted!

The spelling and grammar checkers work more efficiently than the thesaurus; but, unlike, say, those of *XyWrite* and *WordPerfect*, the spelling checker does not catch doubled words, a bane of many keyboarders—certainly me. The grammar checker is an integrated version of *Grammatik IV*, a justly popular program of this type. However, when I say these features "work more efficiently," I don't mean quickly, because *MultiMate* is no speed demon. Program speed, of course, depends largely on microprocessor speed. Still, *MultiMate*'s size suggests a prodigality that carries over into coding inefficiency.

Now here's a *MultiMate* feature I like, one especially useful if you work with people who use different word processors: Document Format Conversion, which converts another program's file to the *MultiMate* format or vice versa. *MultiMate* supports most, but not all, popular programs and ASCII text. Some conversions work better than others. For example, the stripped ASCII conversion of a *MultiMate* file produced an ASCII file all right, but it wasn't really stripped—or stripped right—and I had to do some finagling in the target word processor, which itself produces ASCII files, to get things to look right. Paragraph breaks occurred in strange places, and a left margin appeared where it hadn't previously existed.

All major word processors offer an on-screen preview of the printed document. *MultiMate*'s preview, which works well, is actually part of an elaborate graphics subsystem that provides not only for previewing but for creating, editing, and inserting images into the text. Unfortunately, the graphics follow the oh-so-slow tradition of the parent program.

Should you press on with *MultiMate* as a desktop publisher of sorts, you'll appreciate the Bitstream Fontware packaged with the program. But getting these fonts into action is not a simple plug-and-go game. Not only will you have to work through an elaborate installation procedure, but it will take lashings of time. I decided to install four versions (normal, italic, bold, bold italic) in two sizes of each of the two typefaces supplied, for a total of 16 fonts. It took an hour to generate the screen and printer fonts. Compare the alternative method of scaling fonts on the fly.

The only truly distinctive *MultiMate* feature is the integrated electronic-mail subsystem, designed primarily to communicate with other members of a network. The MHS (Message Handling Service) component offers a hub communication service (by subscription)—an electronic mailbox for messaging beyond the local workgroup. For my purposes, any basic modem program suffices. And for many, phone-dialing software would be enough.

The three-ring *MultiMate* manual is extensive, detailed, and generally helpful. However, it lacks information about program errors. When an error does occur, you get a beep and message, which isn't always helpful. One message, for instance, referred me to a topic with no index entry in the manual. The documentation includes a useful keyboard overlay, a reference card, a manual with instructions for installation, and a sizable tutorial with disk. You'll get a good idea of how to do *MultiMate* basics—if you stick conscientiously to the tutorial exercises. The on-line help system lacks the finish or polish of programs like *WordPerfect* and *XyWrite*. The information is all there, but the publisher hasn't figured the best way to deliver it.

The "Support and Services Guide" lists a world of customer support, including an electronic bulletin board and 24-hour, seven-day, toll-free assistance (Auto-Tate) via a touch-tone menu system that answers a full range of common questions. For example, it reminded me that an installation problem could be the result of memory-resident software. Ashton-Tate also offers yearly service contracts for personal toll-free attention (from $150 to $595) and technical training courses in California, Illinois, New York, Texas, and Washington, D.C.

MultiMate delivers just about every word-processing feature you could want, although you shouldn't mistake it for a desktop publisher, even though you can force it to be one. I fault the program mainly for its cumbersome operation and slow response time. I'm certain that I could learn to love it, but happily I don't have to. I think there are better choices in its price range.

—HENRY F. BEECHHOLD

High-Class Paint and Animation for the Mac

Studio/1

Rating: ★ ★ ★ ★

AT A GLANCE: Loaded with features, easy to use—a great value among Mac graphics programs.
DOCUMENTATION: Very good, with complete manual and on-line help.
ERROR HANDLING: No real problems; everything eventually worked.
EASE OF USE: Considering the many features, very accessible.
SUPPORT: Handled accurately and knowledgeably with only a brief wait (you pay for call).

VERSION REVIEWED: 1.0

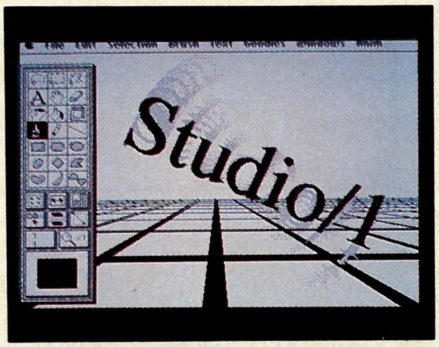
PRICE: $150

SYSTEM REQUIREMENTS: 1MB Macintosh; two drives (hard-disk drive recommended); System 6.0.2 or higher

PUBLISHER: Electronic Arts, P.O. Box 7578, San Mateo, CA 94403-7578; (415) 572-2787

If you're looking for a paint program for your Macintosh, *Studio/1* deserves to be at the top of your list. It comes with a bevy of advanced features for creating sophisticated graphics, all at a reasonable price. You can even create animated presentations complete with sound. And it works on any Mac with 1MB of RAM. Here are my three favorite sets of features.

First, *Studio/1* contains all the expected painting tools: text, pencil, line, brush, box, circle, oval, polygon, airbrush, and pattern fill. I can rotate images and edit curves to change their basic shapes and curvatures. A pattern-pickup feature lets me select a portion of any image, even text, and use it as a paintbrush or fill pattern. I can even create animated brush patterns that change as I paint them across the page.



Not just a Macintosh paint program, Studio/1 *also gives you tools to create on-screen animations with sound effects.*

Second, I can shade and shear images. The latter involves distorting an image in a horizontal or vertical plane. Freehand distortion is also provided. With it I can take a circle and twist it into a curved surface—for a company logo, say. There are also shrink and stretch options. Even though *Studio/1* is a two-dimensional painting program, the perspective plane of the image can be defined to create a three-dimensional look.

Third, if *Studio/1* wasn't already rich enough to justify its cost, it also lets me create animations that include sound. Remember, however, that complex animation files will work best if you have more than 1MB of RAM, and a hard disk is a must.

If this vast array of features sounds like a lot for a little, it is. And *Studio/1* works well, too. The only little glitch I found was in selecting an area—several times I had to repeatedly select a portion of the painting to get the feature to work. But don't let that bother you too much. The program works as expected.

I also found *Studio/1* more complicated than *MacPaint* or *SuperPaint*—mainly because it includes more options. For example, *Studio/1* is just about the only program in its price range that offers Bezier-curve drawing, which gives you a high degree of control over curved lines—essential for desktop publishing. Bezier curves have control points that can be moved independently of one another to alter the shape of the image. Many high-priced professional illustration programs are based on Bezier curves.

One especially useful feature is the Draft page, which lets me work on an overlay of the main graphic layer. This way I can test out additions before making them a permanent part of my creation. For an amateur artist, this is a great goof-proofing feature.

While not that difficult, doing animations takes some skill and patience. In fact, *Studio/1* is well worth considering even if you never want to use the animation feature. But then, you may end up using it once you have it. For example, in creating an on-screen presentation, you might design a series of balloons that turn and twist as they float up to reveal printed text on their surfaces. *Studio/1*'s limits seem mostly set by your imagination.

LaserWriter users will especially like how *Studio/1* can create documents at 300 dots per inch (dpi), the resolution of most Mac-compatible laser printers. *Studio/1* gives you the choice of 10 different resolutions for printing; you don't have to create the document in a particular resolution, either. You can take a 72-dpi painting (that's *MacPaint*'s resolution) and print it at 300 dpi on a laser printer. Of course, it's smaller by that same ratio. Also for LaserWriter users, there's a separate layer that keeps text as PostScript for high-quality print.

Studio/1 works with a wide range of graphic file formats including PICT (*MacDraw*'s format), *MacPaint*, TIFF scanner files, and encapsulated PostScript files (EPSF; such as those produced by Adobe *Illustrator* or Aldus *Freehand*). Any file image can be viewed in miniature before opening it into *Studio/1*.

As you work with *Studio/1* for a while, you may find that its many keyboard alternatives speed you along. For example, the painting tools can be chosen by typing a single letter from the keyboard—B for brush, R for rectangle, A for airbrush, and so on. *Studio/1*'s basic design and layout will feel familiar to any Macintosh user, and it comes with a complete, 330-page manual. There's also a built-in help file to refresh you on the function of each tool and menu option. My calls to technical support (calls are user-paid) were handled accurately and knowledgeably after only a brief wait.

For those in the market for a Macintosh paint program, *Studio/1* is the best value I've seen. *SuperPaint* combines a bit-mapped paint layer with an object-oriented draw layer to give you the advantages of each, but *Studio/1*'s advanced features bundled with its animation mode make it the other top choice on the low end.

—ROGER HART

BEST-SELLING SOFTWARE

These best-seller lists, prepared exclusively for HOME-OFFICE COMPUTING *by Egghead Discount Software, are based on May sales at 206 Egghead stores in the United States and Canada.*

IBM

BUSINESS

1. WordPerfect v5.1 — *WordPerfect Corp.*
2. Grammatik IV — *Reference Software*
3. Works v2.0 — *Microsoft Corp.*
4. Lotus 1-2-3 v2.2 — *Lotus Development Corp.*
5. PFS: First Publisher — *Software Publishing Corp.*
6. Applause II — *Ashton-Tate*
7. MyAdvancedMailList — *MySoftware Company*
8. Windows/286 — *Microsoft Corp.*
9. Windows/386 — *Microsoft Corp.*
10. DrawPerfect — *WordPerfect Corp.*

HOME/SMALL BUSINESS

1. Quicken v3.0 — *Intuit, Inc.*
2. TaxCut — *MECA*
3. TurboTax 1990 v7.0 — *ChipSoft*
4. The New Print Shop — *Broderbund Software*
5. Calendar Creator Plus — *Power Up! Software*
6. Managing Your Money v6.0 — *MECA*
7. Andrew Tobias Checkwrite — *MECA*
8. PC Globe v3.0 — *PC Globe, Inc.*
9. PC USA — *PC Globe, Inc.*
10. Success Inc. — *Virgin Mastertronic*

EDUCATION

1. Mavis Beacon Teaches Typing — *The Software Toolworks/EA*
2. Playroom — *Broderbund Software*
3. Learning DOS v2.0 — *Microsoft Corp.*
4. Outnumbered — *The Learning Company*
5. Where in Time Is Carmen Sandiego? — *Broderbund Software*
6. Reader Rabbit — *The Learning Company*
7. Math Blaster Plus — *Davidson & Associates*
8. Where in the USA . . . — *Broderbund Software*
9. Where in the World . . . — *Broderbund Software*
10. Computer SAT Prepartation — *Intera Learning System*

ENTERTAINMENT

1. Flight Simulator v4.0 — *Microsoft Corp.*
2. SimCity — *Maxis Software/Broderbund*
3. Risk — *Virgin Mastertronic*
4. Ultima VI — *Origin Systems*
5. Monopoly — *Virgin Mastertronic*
6. Clue — *Virgin Mastertronic*
7. LHX Attack Copter — *Electronic Arts*
8. Tetris — *Spectrum HoloByte*
9. Populous — *Electronic Arts*

IBM

MACINTOSH

BUSINESS

1. Grammatik Mac — *Reference Software*
2. MyAdvancedMailList — *MYSoftware Company*
3. MacWrite II — *Claris Corp.*
4. Word v4.0 — *Microsoft Corp.*
5. Works v2.0 — *Microsoft Corp.*
6. Excel v2.2 — *Microsoft Corp.*
7. Simply Accounting v1.03 — *Computer Associates*
8. PageMaker v3.0 — *Aldus*
9. Persuasion v2.0 — *Aldus*
10. DiskLock — *Fifth Generation*

HOME/SMALL BUSINESS

1. Quicken v1.5 — *Intuit, Inc.*
2. MacInTax 1040 — *Softview*
3. The Print Shop — *Broderbund Software*
4. Address Book Plus — *Power Up! Software*
5. Managing Your Money v3.0 — *MECA*
6. MyAdvancedLabelMaker — *MySoftware Company*
7. Calendar Creator v1.0 — *Power Up! Software*
8. Synchronicity — *Visionary Software/Macamerica*
9. Publish-It! Easy — *TimeWorks*
10. Typestyler v1.01 — *Broderbund Software*

EDUCATION

1. Mavis Beacon Teaches Typing — *The Software Toolworks/EA*
2. Where in the World . . . — *Broderbund Software*
3. Where in the USA . . . — *Broderbund Software*
4. Reader Rabbit Mac — *The Learning Company*
5. Computer SAT Preparation — *Intera Learning Systems*
6. Math Blaster — *Davidson & Associates*
7. Manhole — *Mediagenic*
8. Number Maze — *Great Wave*
9. Typing Instructor Encore — *Individual*
10. Math Rabbit — *The Learning Company*

ENTERTAINMENT

1. SimCity — *Maxis Software/Broderbund*
2. Tetris — *Spectrum HoloByte*
3. Falcon v2.2 — *Spectrum HoloByte*
4. Welltris — *Spectrum HoloByte*
5. Pipe Dream — *Electronic Arts*
6. Hunt for Red October — *Electronic Arts*
7. Duel: Test Drive II — *Accolade*
8. Playroom — *Broderbund*
9. Shanghai — *Mediagenic*
10. Gauntlet — *Mindscape*

MACINTOSH

APPLE

BUSINESS

1. AppleWorks v3.0 — *Claris Corp.*
2. Swiftax — *Timeworks, Inc.*
3. AppleWorks GS v1.1 — *Claris Corp.*
4. Publish-It v2.0 — *Timeworks, Inc.*
5. WordPerfect v2.1 — *WordPerfect Corp.*
6. WordPerfect v1.1 — *WordPerfect Corp.*
7. GEOS v2.1 — *Berkeley Software*
8. Graph-It! — *Timeworks, Inc.*
9. GS File — *Brown Waugh*
10. Wordbench — *Addison-Wesley Publishing*

HOME/SMALL BUSINESS

1. The Print Shop w/Graphics Library — *Broderbund Software*
2. Quicken — *Intuit, Inc.*
3. Bank Street Writer Plus — *Broderbund Software*
4. MyMailList — *MySoftware Company*
5. Calendar Crafter — *MECC*
6. The Print Shop Companion — *Broderbund Software*
7. Deluxe Write — *Electronic Arts*
8. MyLabelMaker — *MySoftware Company*
9. Art & Film Director — *Epyx*
10. Family Matters — *Springboard Software*

EDUCATION

1. Where in Time . . . — *Broderbund Software*
2. Where in the World . . . — *Broderbund Software*
3. Math Blaster Plus — *Davidson & Associates*
4. Mavis Beacon Teaches Typing — *The Software Toolworks/EA*
5. Think Quick! — *The Learning Company*
6. Where in the USA . . . — *Broderbund Software*
7. The Oregon Trail — *MECC*
8. Math Rabbit — *The Learning Company*
9. Magic Spells — *The Learning Company*
10. Reading 'n' Me — *Davidson & Associates*

ENTERTAINMENT

1. Tetris — *Spectrum HoloByte*
2. The Last Ninja — *Mediagenic*
3. Hunt For Red October — *Microprose*
4. Playroom — *Broderbund*
5. The Duel: Test Drive II — *Accolade*
6. Qix — *Taito*
7. Clue — *Virgin Mastertronic*
8. Hardball — *Accolade*
9. Gold Rush — *Sierra On-Line*
10. Bubble Bobble — *Taito*

APPLE

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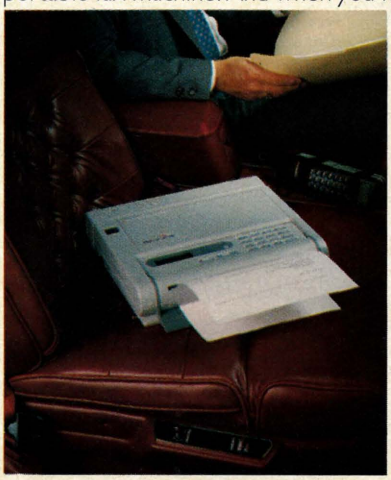

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- ☐ **Express Graph** (1106) Turns raw data into great business graphics.
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- ☐ **PC-Loans** (1628) This package supports all common loan methods.
- ☐ **Easy Project** (1629) A powerful project manager software package.
- ☐ **FormGen** (1630) Design and print any office form, easily!
- ☐ **Employee Management** (1641) A *shockingly* accurate employee personality test that helps lower turnover.
- ☐ **Biller** (1642) Complete time & billing program. Automates all your billing.
- ☐ 2 **ACS In-Control** (1644, 1645) A complete system for sales prospecting, lead tracking, and billing. (2 disks)

DATABASE/MAIL LIST

- ☐ 3 **PC-File 5.0** (1705–1707) The most powerful database program available for under $200! (3 disks) HD 512K
- ☐ 2 **CataList** (1711,1712) A professional mail list manager. (2 disks)

SPREADSHEETS

- ☐ 3 **PC-Calc+** (1800–1802) The most powerful spreadsheet package for under $200! (3 disks) 512K
- ☐ **As-Easy-As** (1805) FANTASTIC Lotus 1-2-3 compatible spreadsheet.
- ☐ **Lotus Macros** (1807) A large collection of Lotus macros and templates.
- ☐ **On-Side** (1506) Prints your spreadsheet (or any file) sideways!

EDUCATION

- ☐ 2 **Spanish I & II** (1205,1206) Spanish vocabulary and verb drills. (2 disks)
- ☐ **Geography** (1215) Learning is fun with this great geography trivia game.
- ☐ **Pre-Calculus** (1218) An excellent pre-calc tutor. Reviews algebra and trig.
- ☐ **World** (1221) A computer encyclopedia of global information. CGA
- ☐ **Typing Tutor** (1224) Helps you improve your speed and skill. CGA
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- ☐ **Math Lessons** (1233) A great program that teaches algebra. CGA
- ☐ **Facts 50** (1234) A graphic geography lesson of the U.S. CGA
- ☐ **Computer Tutor** (1235) Become a more effective computer user.
- ☐ **Googol Math** (1243) A math learning system for several grade levels. CGA
- ☐ **Total Recall** (1245) This program helps you to quickly memorize words, phrases or information on any subject.
- ☐ **School Mom** (1251) Teaches kids (2–14) the basics of art, music, spelling, English and math. FANTASTIC!

WORD PROCESSING

- ☐ 3 **PC-Write 3.03** (1851–1853) The BEST word processor for under $200! Complete w/spell checking. (3 disks) 512K
- ☐ **VDE** (1859) Computer columnist John Dvorak says this is one of the best word processors ever written!

WORD PERFECT 5.0

- ☐ **WP 5.0 Macros** (1857) Several macros for *Word Perfect 5.0+* users.
- ☐ 2 **WP 5.0 Learning Sys.** (1863,1864) Helps you learn to use or become a better *Word Perfect 5.0* user. (2 disks)
- ☐ 2 **ClipArt** (1875,1876) A huge collection of art/graphics for *Word Perfect 5.0+*.
- ☐ 2 **Menus & Mice** (1877,1878) Menu systems and mouse drivers for *WP 5.0+*.

HOME and FAMILY

- ☐ **CheckMate** (1102) A complete checkbook manager. Handles unlimited accounts and does reconciliation.
- ☐ **Home Budget Manager** (1103) Tracks all your household expenses and helps you to set budgets and goals.
- ☐ **Home Inventory** (1105) Keeps track of all your personal property.
- ☐ 2 **Edna's Cookbook** (1118, 1119) An electronic cookbook with several great recipes—add your own! (2 disks)
- ☐ 2 **Brother's Keeper** (1120,1121) A great genealogy program that allows you to trace your family history (2 disks).

GRAPHICS/PRINTING

- ☐ **Banner Maker** (1502) Prints banners in various sizes, styles, and fonts.
- ☐ **PrintShop Graphics** (1503) A large collection of Printshop clip art.
- ☐ **PC-Art** (1509) A color graphics painting/drawing package. CGA
- ☐ 2 **Epson Utilities** (1514,1515) Enhance the print quality of your Epson-compatible printer. (2 disks)
- ☐ 4 **PC-Key Draw** (1520–1523) Powerful CAD design system. Works with mouse or keyboard. (4 disks) CGA
- ☐ **City Desk** (1525) Simple desktop publishing for newsletters.
- ☐ **Charts Unlimited** (1531) A design tool for creating any kind of chart. CGA
- ☐ 2 **PC-Draft** (1533,1534) A high-quality drawing program. (2 disks) CGA
- ☐ **Amazing Labels** (1547) Create and print graphic address labels.

MISC. APPLICATIONS

- ☐ **Elisa** (1301) Let the famous computer psychiatrist analyze you!
- ☐ **Bowling League Secretary** (1308) Manages your league and keeps stats.
- ☐ **Personal Biorhythm** (1310) Will display or print a personal chart.
- ☐ **Lotto** (1313) See if your PC can help you pick winning numbers.
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- ☐ 4 **Wisdom of the Ages** (1316–1319) Over 6000 great quotations from the greatest minds of history. (4 disks)
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- ☐ **Bible-Q** (1551) Test your Biblical IQ!
- ☐ **Piano Man** (1901) Compose and edit music or play the keyboard.

UTILITIES

- ☐ **Automenu** (1409) A very professional hard disk menu system. Run any of your programs from a custom menu.
- ☐ **ALT** (1413) It's like Norton Utilities, the Sidekick desktop accessories, and a menu program all in one!
- ☐ **HD Backup** (1415) Allows you to backup/restore all the data on your hard drive with floppy disks. HD
- ☐ **Q-Edit** (1427) Our favorite screen/text editor. Hundreds of features, beautiful screen display, on-screen help.

GAMES

- ☐ **AdventureWare** (1934) Five excellent adventure games.
- ☐ **Armchair Quarterback** (1905) A fun football strategy game.
- ☐ **Baseball** (1916) Great arcade action and baseball strategy. CGA
- ☐ **Crime Lab** (1955) Play this exciting graphic murder mystery game. CGA
- ☐ **Double Blocks** (1970) A TERRIFIC Tetris clone for 1 or 2 players. Records top scores. You will love this!
- ☐ **Ed's Chess** (1919) An excellent chess opponent. It can beat the expensive chess simulators and most people!
- ☐ **18-Hole Miniature Golf** (1915) Kids really love this one! CGA
- ☐ **Flightmare** (1923) Futuristic fighter pilot arcade game. CGA
- ☐ 2 **Ford Simulator II** (1977, 1978) Test drive and price your favorite new Ford models. (2 disks) CGA
- ☐ **Kid Games** (1938) These games are both fun and educational. CGA
- ☐ **Kingdom of Kroz** (1952) An excellent, award-winning adventure game.
- ☐ **McMurphy's Mansion** (1966) Search a spooky Scottish castle for treasure.
- ☐ **Miramar Flight Simulator** (1967) You command a fully armed F-18. CGA
- ☐ **No Graphics!** (1979) A collection of fun arcade games that don't require graphics. (Works on every system.)
- ☐ **PAC-Man & More!** (1930) PAC-Man and Ms. PAC-Man clones. CGA
- ☐ **PC-Gammon** (1907) Play a tough computer opponent, anytime. CGA
- ☐ **PC-Pro Golf II** (1975) Choose your club and swing away at one of the world's most beautiful country clubs (Amherst). Excellent graphics! CGA
- ☐ **Pinball** (1941) Great sound and fast play on 5 different "machines." CGA
- ☐ **Scrabble** (1957) Test your word power with this always fun game. CGA
- ☐ **Sleuth** (1903) Play detective in this "Who done it?" adventure.
- ☐ **Sports Games** (1927) Bowling, archery, and pool. CGA
- ☐ **Star Trek** (1948) Two versions for all you TREKies out there.
- ☐ **Strategic Games** (1926) Fight on land and sea in this war simulation.
- ☐ **Striker** (1904) Helicopter attack and rescue arcade game. CGA
- ☐ **SUPER Arcade I** (1906) A collection of famous arcade hits like Qubert, Centipede, Pango, and more! CGA
- ☐ **SUPER Pinball II** (1951) Five more fantastic pinball games. CGA
- ☐ **Tommy's Trivia** (1949) Test your knowledge in several categories.
- ☐ **Video Poker/Ultima 21** (1945) The BEST poker and blackjack games!
- ☐ **Wheel of Misfortune** (1935) Like TV's Wheel of Fortune game.

EGA GAMES

(The following require EGA monitors)

- ☐ **Bass Tour** (1925) An amazing game with excellent graphics. Fish in your choice of lakes. Very realistic. EGA
- ☐ **Captain Comic** (1961) The BEST arcade game ever! Superior graphics! EGA
- ☐ **EGA Arcade** (1965) EGA versions of *Asteroids and Breakout*. EGA
- ☐ **EGA Coloring Book** (1963) A graphically beautiful and easy-to-use coloring program that kids love! EGA
- ☐ **EGA Football** (1928) You call the plays and control the action! EGA
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(Effective July 1989 issue)
Prepayment Required
Net cost per line per issue:

1 Time	$29.00
3 Times	27.00
6 Times	26.00
12 Times	25.00

$25 extra per issue for any/all bold print.
Add 25% extra for gray tint.
3-line minimum

To determine number of lines, count 40 characters per line including spaces and punctuation. For all caps or bold print, count 36 characters per line. A partial line counts as a whole line.

DISPLAY RATES:
(Effective July 1989 issue)
Prepayment Required
Net cost per column inch per month:

1 Time	$315.00
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Add $50 for Reader Service number for all display ads under 3 column inches.
Column width is 2 3/16".

Classified Advertising is not agency commissionable

Frequency discounts are earned. Accounts will receive discount and rebate as they achieve frequency levels.

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When submitting a camera-ready ad, please indicate if the ad was printed on a laser printer.

1990 DEADLINES:

October	7/31/90
November	8/30/90
December	10/1/90

TO PLACE YOUR AD:
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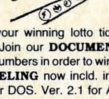

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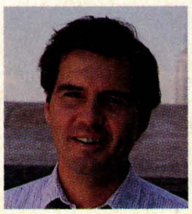
How to Vacation at Home

BY NICK SULLIVAN



One of the best ways to relax is to vacation at home. You can catch up on reading, rest, and nagging chores around the house and generally put your life back in order—without spending much money. But is a vacation at home relaxing if you work at home regularly?

Yes, if you take certain steps to ensure privacy. I've taken several home vacations over the past few years, and some have been disasters. I just never completely shut off the work valve or shut out the business world. But I've learned by doing. Now, rather than just stopping work and staying at home, I do some advance planning, as I would for a vacation with a destination. It's my goal to get as far away from the office as I can—without moving. Here are some of the ruses I've employed to turn my office environment into a spa—and my mind into jelly.

Here are some of the tricks I've employed to turn off my mind.

1. Mind-travel to a different land. So much of life is mental, as Freud and others have pointed out. You can be in a grimy bus station inhaling fumes but transport yourself to the Bahamas by training your mind on the matter. Similarly, you can transport yourself beyond the confines of home and work with a little mind control. All you have to do is find the little flow switch in the brain that shuts off work.

I found the switch last vacation while building a stone wall. Collecting, moving, and fitting stones took me back to the glacial age, well before computers were invented. I was more concerned with lifting and positioning a stone so that the moss showed than I was with designing a database to do a mailing list. Inclined-plane physics—not operating-system quirks—taxed my analytical powers. After months of sitting at a desk, my body relished the physical labor. Rather than suffering minor eye, neck, and back strain, I wallowed in soreness.

As the wall took shape, it materialized as the second coming of the glaciers, slowly grinding the world of paper and electronic information into oblivion. With but one primitive goal in mind, I began to think clearly—moss grows on the north side, round stones are useless, sheep won't jump over a wall with chinks—and thus to relax. I was far, far from home—and the office.

2. Don't answer the phone. Live by the phone, die by the phone. That's one of the pitfalls of working from home, and it's particularly acute when vacationing. I want calls from friends looking for a golf match, not from publicists searching for a new way to say great. But the outside world has my name and office number on a Rolodex. And if it's Monday, it's business as usual. So I turn on the answering machine and studiously avoid the monster that rings.

This usually works (how could it not?), but last time I was on vacation my wife was working and answering the phone. She'd take messages, some of which were so long and convoluted that she had to repeat them to me just to get them out of her head.

3. Don't read business mail. One of my daily rituals is tromping to the mailbox hoping to find a check or a letter from a long-lost friend. Usually I find junk mail and business mail. Reading business mail on vacation can really snap the mind-set that I've worked so hard to establish. Even looking at the envelopes can be depressing, because I can almost predict what they contain. But again, I try to work a little mind trick. I take the mail and toss it in a pile with a laugh, saying, "This is totally unimportant. Whom do they think they're kidding? Do they expect me—the man who lifts rocks—to respond to such a missive?" I begin to feel powerful, in control, above reproach. I am a knight on vacation, not a pawn at work.

4. Blow smoke over your movements. One way to ensure a peaceful vacation is to retire to a cabin with no phone. If you go anywhere with a phone, people will find you. I don't know if it's the Law of Human Connectedness or what, but it's often hard not to let someone know how to reach you. And once you give someone your phone number, it's distributed like a chain letter.

One trick I've used successfully is to fake left, go right. Last year I told people I was going on vacation to an island in Maine with no phone. That was partially true, since I was there for a weekend. But then I came home for a blissful vacation week with considerably fewer phone calls than normal.

5. Don't check your electronic mail. My e-mail is much more interesting than my paper mail. E-mail comes from individuals, and paper mail is more likely to come from a company. Key sports gossip and news of births are delivered by e-mail. Since I'm chronically dependent on e-mail, it's hard for me to stay away from it.

But I have to stand tall and stay out of the office. I have to let the computer rest. That's how I rest.

Vacationing well at home takes as much skill as vacationing well in Paris. I'm accomplished at switching my own mind-set from work to pleasure. I just do something active and outdoorsy. Shutting off outside intrusions is more challenging and takes some energy. But over the years I've developed defense mechanisms that have served me well. Mind traveling to the glacial age is cheaper and more relaxing than a trip to Paris. Besides, I can make my own espresso. ■

NICK SULLIVAN *is a senior editor who telecommutes to* HOME-OFFICE COMPUTING*'s New York office from his home in Massachusetts.*

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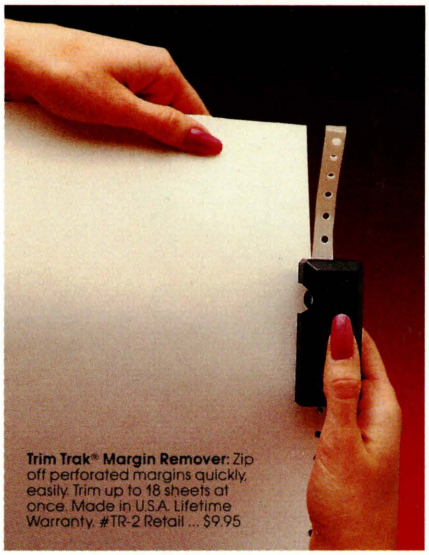

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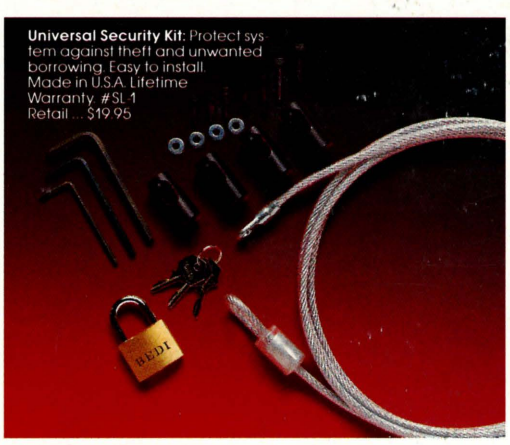

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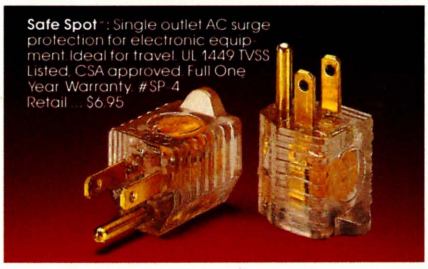

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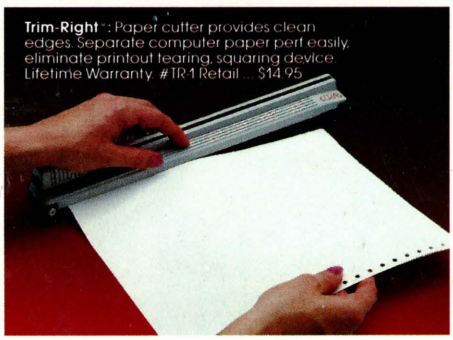

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